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D I S E A S E S

Adapted to the PRINCIPLES which compose
BRISTOL WATERS,
W I T H
M E M O R A B L E C U R E S.

C H A P. I.

Of PECTORAL DISEASES.

I. *Of* COUGH, or CATARRH.

1. **C**OUGH, or Catarrh is a convulsive endeavour to expel whatever proves offensive to the lungs. *Definition.*

2. It is divided, 1. Into thin and sharp, or 2. *Division.*
Into viscid and inert.

3. The first is occasioned by sudden chills, winds cold and moist, east and north particularly, sudden changes, thaws, wet cloaths, reliefs of former diseases, measles, small-pox, &c. *Causes.*

4. The second takes its rise from laxity of the solids, indolence, moisture, night studies, crude, cold and watery diet, &c.

Symptoms.

5. The symptoms of the first are shivering, lassitude, watery inflamed eyes, flushed countenance, shortness of breathing, tickling, and inclination to cough, especially towards night, plentiful secretion of urine, quick hard pulse, itching and running of the nostrils, sneezing, inflammation, and excoriation of the *membrana sneideriana*, hoarseness, spitting of blood, and pulmonary phthisis.

6. In the viscid catarrh, respiration labours, the lungs are oppressed with frothy mucus, the cough is chiefly troublesome in the morning; the matter expectorated is whitish, bluish, and globular. These are succeeded by tubercles, suppurations, and pulmonary consumptions.

These symptoms are easily accounted for. Of all causes, the most common is cold. *Causae externae quae prohibere solent perspirationem sunt aer frigidus, caenosus, humidus, &c.* says *Sanctorius*. The *membrana sneideriana* suffers by its communication with that membrane, which covers the inside of the lungs. The internal and external parts of the thorax and abdomen become convulsed, because they are covered with the same nerves with the lungs, the eighth pair, and intercostals.

Convulsive Cough.

7. The convulsive Cough is more inveterate, and attacks children, commonly called *Chin-cough*. In this, inspiration continues for some minutes; when it begins, it is performed by a sort of hissing, snoring, and clangor, occasioned by the coarctation of the glottis. Little or nothing is thrown up. The stomach is often provoked to vomiting. Fever supervenes, ulcer, haemoptoe, and phthisis follow.

Cause.

8. The cause of this species seems not yet ascertained.

II. Of

II. Of CONSUMPTION.

1. EVERY disease that wastes the body may, *Definition* strictly speaking, be termed consumption. This is a wasting of the body accompanied with hectic fever, cough, and purulent spitting. In this country consumptions may truly be said to be endemic. The general constitution of our air is cold and moist, ever in extremes. Laxity of solids, languid circulation, and retention of humors are natural consequences. Diseases arising from such solids and fluids, are coughs, catarrhs, hectic fevers, empyema, haemoptoe, sweating, asthma, &c. It is called a pulmonary phthisis, because it has its seat particularly in the lungs.

2. It is distinguished 1. Into ordinary and *Divisions* symptomatic. 2. Into phthisis, with an abscess.

3. Into acute and chronic.

3. Persons subject to this disease are the *Subjects*: young, long-necked, tall, narrow-chested, and lax.

4. The procatareptic causes are acrid matter, *Causes*, metallic fumes, moist air, tubercles, haemoptoe, suppressions of usual evacuations, inordinate passions, gluttony, drinking, indolence, wounds, and dregs of other diseases, infection, and hereditary taint. Obstruction of the glands of the lungs or arteries produce this disease, as well as ulcers.

5. It is divided into two stages, *Stages*, inflammatory and suppuratory.

6. It begins with a dry cough, clangorous *Symptoms*, voice, heat, pain, oppression after motion, spitting of blood, saltish taste of the mouth, loss of appetite, thirst, vomiting, sadness, sense of weight in the lobe affected, pulse quick, soft, and small;

DISEASES CURED

sometimes full and hardish. This we call the inflammatory state.

7. Soon after the patient expectorates matter white, green, streaked, insipid, and fetid. The body wastes, and seems chilly in hot weather, with night heats, and morning sweats, diarrhaea, dysentery, lenteria, or diabetes; the palms of the hands burn; the tongue becomes covered with little ulcers; after meals the cheeks flush; the nails grow crooked; the hair falls off; the feet swell; the belly shrinks upwards; parts of the air-vessels are thrown up by spitting; all the functions languish; the body grows dry; the eyes sink into their sockets. Laesion of deglutition, drying up of the ulcers, chills, and loss of strength, carry off the sick in the midst of flattering hopes. This we call the suppuratory state. In a Vomica pulmonum all these symptoms appear, excepting spitting of pus.

Distinction. 8. The inflammatory state is thus distinguished from the catarrh. In the former, the cough is dry, a sense of weight is perceived in one of the lobes of the lungs. In the latter, defluxion only.—Putrid remittent fever, expectoration of pus, wasting, night sweats, and colliquative looseness, distinguish the suppuratory state from other diseases.

Empyema. An Empyema is a collection of pus between the lungs and the pleura. It is distinguishable by the hectic fever, difficulty of breathing, cough, spitting, fluctuation of matter, weight and sense of pain on shifting posture; with other signs of inflammation and suppuration.

Vomica of the Liver. A Consumption is distinguished from a Vomica of the Liver by that pathognomonic pain which attends the latter, and which reaches upwards to the shoulder; by tumor and pain in

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in the part affected, nausea, vomiting, and diarrhaea.

A Consumption is distinguished from an abscess of the stomach by symptoms peculiar to the latter, viz. Fetid eructations, cough without expectoration, purulent vomiting, faintings, sweats, pain in deglutition, or after; pain of the intestines, occasioned by the passing of pus; of the omentum, or mesentery of the kidneys; desire of lying on the belly; purulent urine, or dysury, &c.

*Abscess of
the Sto-
mach.*

III. Of HECTIC FEVER.

1. FEVERS which proceed slowly, debilitate, and waste, are called *Hectic*. *Definition.*

2. Hectic fevers are divided into idiopathic and symptomatic. Symptomatic hectic fevers proceed from schirrous infarctions, and ulcers of the viscera, particularly the lungs, and mesentery. There are hectic fevers which proceed from mere acrimony. This opinion gathers strength from a survey of the remote causes of hectic fevers, viz. Inordinate passions, grief, anger, care, watching, excessive evacuations of all sorts; corrosive medicines; debility of the first passages; past diseases; suppressions of usual evacuations; drunkenness. *Division.*

3. The symptoms of hectic fevers are the same almost as in consumptions. *Symptoms.*

IV. Of HAEMOPTOE.

1. FLORID frothy blood throwen up from the lungs we call *Haemoptoe*. *Definition.*

2. Persons are subject to this from the same dispositions mentioned under the section of consumption. *Subjects.*

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3. The

Causes.

3. The remote causes are violent orgasms, or expansion of the blood; spastic contractions of the viscera; schirrous obstructions; polypus's in the pulmonary vessels; plethora's after intermissions of usual evacuations; anger; violent exercise; high sauces; spirituous liquors; violent fits of coughing; strainings; hard frost; inelastic air.

Symptoms.

4. The preceding symptoms are shivering, lassitude, coldness of the extremities, anxiety, difficulty of breathing, heavy undulatory pain about the region of the diaphragm, flatus, and pain of the back. These symptoms are peculiar to this species of Haemoptoe.

V. Of ASTHMA.

Definition.

1. ASTHMA is a laborious respiration, threatening suffocation.

Division.

2. It is 1. Periodic, or continual. 2. Moist, or dry. 3. Genuine, or spurious. Of the first we treat only.

Subjects.

3. It chiefly attacks fat people, and after the bloom of youth. It is more frequent in summer than in autumn.

Causes.

4. Its remote causes are gross foggy air, thunder, inordinate passions, small-pox, scurvy, intermittents, catarrh, old ulcers cicatrized, suppression of wonted evacuations, repercussions of critical evacuations, gout, erysipilas, oedematous tumors of the feet, wounds of the diaphragm, hereditary taint.

5. Its proximate causes are, 1. Obstructions of the bronchia and air-vessels. 2. Irritation of the respiratory nerves; thence spasmodic contraction of those fibres which correct the cartilaginous rings of the bronchia.

6. The

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6. The paroxysm manifests itself thus. First, *Symptoms.* the stomach is distended, and throws up belchings, with a sense of coarctation. Heat, fever, stupor, head-ach, nausea, and pale urine follow. The lungs feel stiff, the spirits are ruffled, the extremities seem benumbed, the breast feels as it were squeezed between two presses, the patient breaths with difficulty, and speaks hoarse. During the night every symptom increases. Breathing is slow, nor can it be performed but in an erect posture, nor without the assistance of the scapulae. Worse in bed than in the cold air. Tears flow involuntary, the pulse feels weak, small and intermitting; the heart trembles, the face grows black, with a sense of suffocation. As the straightness remits, a viscid, sweet, saltish phlegm is thrown up, streaked with black filaments. The urine then is coloured, and lets fall a sediment. When the fit is over, the spitting ceases. As the disorders grow inveterate, the hands and feet swell, especially towards night, the countenance acquires a livid cast, the patient falls into dropsy, consumption, inflammation of the lungs, lethargy, palsy, death.

Prognostics.

Thus, having accounted for the causes, seats, symptoms, and effects of pectoral diseases in general, we now proceed to their several prognostics.

1. Dry Coughs generally change into moist. *Coughs.* The former are more dangerous than the latter, because of those inflammations, and ruptures of vessels which accompany them. Better that dry coughs should turn into moist, than moist into dry; because tubercles, putrid and hectic fevers generally attend the latter. Moist coughs hinder digestion, and bring on cachexy. To weak lungs, both sorts are bad.

*Convul-
sive.*

2. Convulsive Coughs are rarely dangerous.

*Consump-
tion.*

3. In Consumptions, the following symptoms promise fair. Pus white, even, easily throwen up, little or no fever, respiration free, cough moderate, appetite not impaired, chest wide, belly lax, youth, and the disease yet recent.— If the disease happens to be hereditary, if the cough is severe, if the hectic heat lasts till morning, if sleep refreshes not, if the wasting be great, if there is danger of suffocation, looseness, colliquative sweat, and swelling of the feet, the case is, at best, desperate. Acute phthisis is more dangerous than chronic, originary than symptomatic. The autumn promises little to consumptives,

*Hectic fe-
vers.*

4. In hectic fevers, if the strength fails, if the hair falls off, with colliquative diarrhaea's, night sweats, swelling of the feet, urine oily, and the face hippocratic, the patient has little to hope for.

*Haemor-
rhages.*

5. Of all haemorrhages, that of eructation of pure blood from the lungs is the most dangerous. According to the habit, age, and vessels ruptured, the danger varies. It is more perilous when it arises from weak vessels, schirrous, or polypus, than when it proceeds from the fluids themselves, or the intermission of usual evacuations, in weak lax habits, than in strong, in old than in young, from ruptures of large vessels than from small. From obstructions, women are subject to haemoptoes. In them it is more alarming than dangerous. Emenagogues, about the next time of eruption, bring nature to its own channel, the haemoptoe ceases. If part of the blood stagnates in the aereal vessels, it putrifies, corrupts the sound parts, and brings on consumption. If it happens to be complicated

cated with ulcer, the patient would do well to think of another world.—If it returns often, the blood acquires acrimony from inanition. Hence it is, that (in Monasteries) those devotees who really fast, die all of putrid hectic fevers. The same juices, by constant circulation, naturally acquire putrescency; their breath is offensive; such generally die raving mad. Thus it fares with nurses who fast too long; their milk tastes strong of urine. Hence also it is that the best natured people grow peevish, through sickness. This explains that axiom, *Qui fame moriuntur, febre moriuntur.*

6. In Asthmas, the prognostics are more promising in youth than in old age, from evacuations suppressed than from other causes. The more frequent and severe the paroxysms the worse. An Asthma changing into a peripneumony is deadly. Difficulty of breathing may be long borne; orthopnea strangles old men suddenly. Blackness of the face, and suffocation happen from a stoppage of the blood thro' the lungs. Dangerous are trembling respiration, pulse intermittent or deficient, palsy of the upper extremities, faintings, palpitation, and scarcity of urine. When the breathing comes to be small and slow, when the limbs feel cold, when the pulse changes from slow to quick and weak, matters are at the worst. Thus having accounted for particular prognostics, we next proceed to the several methods of cure.

Cure.

1. THIN, sharp catarrh calls 1. For vaenesec- *Thin ca-*
tion, gentle purging, and mild diaphoretics. 2. *tarb.*
Acrimony is to be corrected, thinness inspissated,
and the pulmonary vessels to be relaxed by ve-
getable expressed oils; mucilaginous decoctions;
pectoral syrups, and balsams. 3. Convulsive
4. *spasms*

spasms are to be quieted by opiates. 4. The diet ought to be light, bland, milky. The skin ought to be defended from the air; rest is first to be indulged, then gentle exercise.

Thick catarrh.

2. In viscid catarrh, 1. The peccant matter is to be diverted, by keeping the belly open, blisters, and issues. 2. It is to be attenuated by vomits, blisters, and medicines inciding and detarging, viz. soap, squills, garlick, gum-ammoniac, and vegetable acids. 3. The lungs are to be strengthened by fumigations, riding, friction, corroborating diet, and ferrugineous waters.

Convulsive cough.

3. In convulsive Coughs, medicines avail but little, till the disease has almost expended its fury. These chiefly conduce, 1. Bleeding. 2. Vomits. 3. Purges. 4. Pectorals. 5. Blisters. 6. Specifics; and, 7. Bitters.

Consumptions inflammatory.

4. In the inflammatory state of consumptions, 1. Small bleedings, seasonably repeated, conduce. 2. Blisters ought frequently to be applied. 3. Thin sharp humors are to be inviscated by oily inraffating medicines. 4. Vomits, provided the disease takes its rise from thin catarrh. 5. Medicines and diet are specifically to be directed to the causes; haemorrhage, scurvy, scrophula, asthma, evacuations, &c.—Crude tubercles are to be attempted by the most gentle deobstruents, and with the greatest caution.

Suppuratory.

4. The second, or suppuratory state, may be attempted 1. By astringents, increasing and agglutinate. 2. Pus is to be drawn off by those ways which nature affects. 3. The effects of pus are to be prevented by antiseptics, inraffants, and acids. 4. The body is to be refreshed with light, nourishing diet, air, sleep, avoiding venery, and passions of the mind.—The preservatory cure depends on little bleedings, diet, exercise, and avoiding night air.

5. Hectics

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5. Hectics admit of no cure, unless they are *Hectics.* timeously attacked. The acrimony of the blood is, 1. To be corrected by medicines demulcent, and inviscating, such as almond emulsions, vegetable mucilaginous decoctions, barley, marsh mallows, colts foot, chicken broth, &c. 2. Asses milk, or breast milk, goat-whey, &c. 3. Gentle astringents, conserve of roses, tincture of roses, elixir vitriol, bark, ferrugineous waters, &c. 4. Riding, and constant travelling. 5. Cleansing the first passages, by gentle pukes, and rhubarb. 6. Paying attention always to original causes.

6. In Haemoptoes, 1. The blood is to be *Spitting of blood.* diverted from the lungs. 2. Its orgasm is to be tempered. 4. Spasms are to be allayed; and, 5. Ruptured vessels are to be soldered.—1. The blood is to be diverted by vaenesection, gentle purging, glysters, and ligatures. 2. Its orgasm is to be tempered by water and nitre, acids mineral and vegetable, and opiates. 3. Spasms are to be allayed by opiates. 4. The vessels are to be consolidated by medicines oily, incrassating, and agglutinant diet, tranquility, abstinence of all forts.

7. In moist Asthmas, the intention is to at- *Moist asthma.* tenuate, and evacuate viscid matter, and to *mas.* prevent its regeneration. Attenuation is performed by medicines, attenuating and diluting liquors. Evacuation by pukes. Generation of new matter, by gentle purges and diuretics, fontanells, blisters, and the bark.

8. In convulsive Asthmas, the business is to *Convulsive.* quiet the orgasm of the spirits. This is accomplished, 1. By diminishing the stricture by glysters, and fomentations applied to the breast. 2. By diverting the humors to other places, by friction, and warm pediluvia. 3. By allaying the
the

the spasm, with opiates, and antispasmodics.— In the plethoric, bleeding gives immediate relief. In flatulencies, carminative glysters. After the paroxysm, the bark bids fair for preventing irritability. In both kinds, erect posture, slender diet, and air serene conduce. If the disorder proceeds from suppression of usual evacuations, it is to be attempted by diaphoretics, and restoration of these evacuations.

In the preceding deduction, I have endeavoured to present the reader with a succinct narrative of pectoral diseases, in their particular divisions, causes, symptoms, stages, subjects, diagnostics, prognostics, regimens, and method of cure. Custom has blindly appropriated pectoral diseases to Bristol-waters. In the preceding part, I have given convincing proofs of the power of Bath-waters in pectoral diseases. Custom has blindly also assigned particular seasons to particular waters. To the study of pectoral diseases, I have given particular attention. I have pried into boasted nostrums, I have tried all the specifics of the shops. On the use of *Sea-voyages in Medicine*, Dr. Gilchrist, Physician of *Dumfries*, has published a treatise. On the subject of Consumptions he has said more, in a few sheets, than all the moderns put together. With him, I frankly confess, That, in proportion to my experience, my faith abates.

1. In constitutions naturally good, when fever, sickness, cough, and wasting, give early warning when the disorder happens to be endemic, and the habit not much impaired, common evacuations generally succeed. Ulcerations of the lungs, from incysted tumors yield to common methods, provided the disorder proceeds from

from external injuries, and the constitution be found.

2. Pus, confined within its cystis, affects the lungs no otherwise than by pressure. When the cystis comes once to be expectorated, the disease is cured, and no wonder, *Sublata causa, tollitur effectus*.

From page 99 to 105 inclusive, Gilchrist gives histories of cures from incysted tumors, with the help of hardly any one medicine; nay, he hardly allows such to be called consumptions.

3. Consumptions from glandular obstructions are very frequent, and very obstinate. Between such, and scrophulas, there seems to be great analogy. Scrophulas prevail often without visible tumor. The seat of the distemper lies often in the mesentery, and lungs, which are covered with an infinitude of glands. Such obstructions frequently end in hectic, and pulmonary consumption. Scurvy, vapors, and scrophula often have the same common cause, therefore it is that they are often common to the same patient, and change so often into one another. Sickly tender habits have often been relieved by scorbutic eruptions. Eruption imprudently repelled, has brought on tubercles, glandular swellings, topical inflammations, languor, and vapors. Some scrophulas are mild, and easily admit of resolution, or suppuration. Others are intractable. So, in some consumptions, we observe mild suppurations. In true glandular consumptions, there are not wanting instances of cures. But, if the habit degenerates, if new causes concur, other glands come to be affected, those which have been healed turn callous, the disease comes to be fatal.

4. When obstructions resolve not, when the lungs really come to be ulcerated, cures are very

very rare. By malignity of ulcers added to necessary motion of expiration and inspiration, consolidation is prevented. In pectoral diseases, various and perplexed are the contra-indications. Like fruits on the same tree, some are green, some coloured, some mellow. Just so it fares with the pulmonary glands; some are crude, others inflamed, others suppurated, others broken. In fevers complicated of the inflammatory, hectic, and putrid, what hopes can we administer? In coughs dependent on erosion, on catarrh, opiates, doubtless, have their use. By retaining acrid pus, they add to infarction; they debilitate, pall the appetite, and bind the belly; they are, at best, but temporary reliefs. Fever indicates the bark. Bark adds to obstruction; and so may we say of pectorals in general.

5. Could pectorals find immediate access to the lungs, great things might be expected. Air finds entrance by respiration only. Medicine reaches the lungs no otherwise than by the round of circulation; a circumstance not unworthy of the consideration of those who, unmercifully, cram poor consumptives with nauseating oils, and stimulating balsams. From a consideration of the foregoing deduction it appears, that coughs, catarrhs, hectic, consumptions, asthma and haemoptoes differ from one another, and require different cures. Sharp catarrh indicates diaphoretics, thick catarrh attenuants. Medicines are to be directed to the causes. Scorbutic consumptions yield to antiscorbutics. In some consumptions, I have, in vain, expended all the artillery of pectorals, and waters. Discovering venereal reliëts, I have thrown in mercurials, and snatched many from the grave. Medicines duly administered have their

their certain use, they keep the waters in their right path. Medicines restore faltering nature; they often procure a truce, and, at length, a cure. In consumptions, it may particularly be affirmed, that care, air, diet, and regimen avail more than medicines. On the subject of the *Non-naturals* I purpose to treat particularly in the last part. There the consumptive reader may find cautions not unworthy of his labour. Suffice it here, to glance only at domestic rules, particularly applicable to consumptives.

1. Heat and cold are, in extremes, both unfriendly to tender lungs. That cold which chills the air about the dawn of morning ought to be awarded by covering the head, neck, and breast, as well as by shutting the curtains.

2. The air ought, moreover, to be saturated with medical particles conducive to the cure. In case of ulcerous disposition, with particles balsamic. Powdered gums ought to be sprinkled on the embers, at such a distance as to cause neither cough, nor sneezing. If the cough happens to be dry, or convulsive, emollient vulnerary decoctions are indicated.

Mineral particles issuing from stinking turf, or stoves fill the air with noxious particles. Dr. Newman thinks the air of London rather meliorated by the smoke of coals. Bristol coal cannot be said to be unfriendly to weak lungs. Wood-fire equally kept up day and night, in a chimney that smokes not, is the best, provided the patient lies at such a distance as not to breathe the salt. Those who reap benefit at Bristol, during the summer, ought to cheat the winter, by flying to *Italy*, where reigns an eternal serenity, and constancy of weather.

3. Ground floors infect children with rickets. By sleeping in wet sheets, many have suffered.

Con-

DISEASES CURED

Consumptives ought to sleep in spacious upper rooms, and alone. If they require not constant attendance, nurses ought to wait in the adjoining room. From statical experiments, we learn, that (by absorption) the sick communicate their distempers to those who sleep under the same bed-cloaths. Heat and contact are, unexceptionably, pernicious to consumptives. The summer effluvia of animal bodies taint the air to a degree sufficient to defeat every intention. While the ventilator played at *Simson's* room, on an assembly night, I tried to make an experiment on the foul exhausted air. The smell was inconceivably loathsome, I could not bear it for a moment; nor can any man without danger of being poisoned. Foul air was the cause of the fatal catastrophe at *Calcutta*. Bed-chamber visits ought, for this reason, to be rare, and short. The windows and doors ought to be laid open, in the day time, for a thorough perflation of air.

4. The blood flows rapidly through the pulmonary vessels. It ought, therefore, to be medicated with aliments soft, simple, and easy of digestion: of this tribe milks are the foremost. Milk is blood half prepared. For those who cannot bear milk, vulnerary broths may be substituted of chicken, rice, comfrey roots, pistachio nuts, poppey seeds, &c.

5. Selters water abounds with an alkaline salt, and a volatile spirit; it is adapted to hectic feverish complaints, in purulent habits particularly; it quenches thirst, and may be drank, at a distance, by itself, or with milk.

In the preceding pages, I have drawn an abstract of pectoral diseases in general. From the writings of antients and moderns I have borrowed the spirit of practice. In cases where

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art has exhausted its utmost skill, where nostrums have proved of none effect, where the whole mass of blood has been melted down into ichorous corroding serum, where this same serum has run off in colliquative discharges, where these discharges have been increased by consuming hectic, where the tenement of the lungs has been melted down, where the bronchia as well as cavity of the thorax have been filled with pus, where the body has not only been emaciated, but could not be nourished, Bristol hot-well waters have performed cures. The only collection of cures performed by those waters, is that very short treatise by John Underhill, practitioner of Bristol, printed in the year 1703. By the author's facetious stile, it bears the marks of genuine simplicity. From this simple fountain, added to my own observations, I hope to be able to produce proofs sufficient of my text. To facts I appeal.

" The Hot-well water mixeth, as he says,
" *per minima*, with wine, and other potables, so
" naturally suited to all stomachs, and of such
" agreeable warmth, that it never regurgitates,
" though common water of the same heat is an
" Emetick, and so wonderfully fortifies the
" ventricle, that it never fails to excite an *eager*
" *appetite*. This is so well known, that in-
" stances were endless, and coincident. It is
" of true merit in all *Cachochymy*, *Colic*, *Bilious*
" *Vomiting*, *Cardialgias*, *Dysenteries*, and *Fluxes*
" of all kinds, *Fevers*, and all *hectic Cases*, all
" lavish *Sweatings*, *Rheumatic Pains*, *Herpetes*,
" *Pustules*, *Itch*, *Scorbute*, all sorts of *Ulcers* in-
" ward or outward, *Asthmas*, *King's Evil*, *Dysu-*
" *ries*, *Diabetes*, *Kidney-gravel*, *Bladder*, and
" other *excoriations*. It extinguishes all *thirst*. It
" is more *binding* than *laxative*. To diffuse the
Vol. II. C " curative

DISEASES CURED

“ curative uses of this helpful water, I have care-
 “ fully collected the following histories, attested
 “ either by the persons themselves, or other cre-
 “ dible eye-witnesses, to obviate all suspicion of
 “ falsehood, and frivolous objection to the pre-
 “ judice of the public against plain matters of
 “ fact. *Res ipsa loquitur.*”

Cases.

1. “ The Reverend Dr. Hammond, of *Christ Church, Oxon*, about four years since, spared
 “ neither care nor cost for the recovery of *Christopher Pyman*, his then servitor, and now of
 “ the same college. After the Doctor had left
 “ him past hopes of recovery, with his funeral
 “ directions, a dismal spectacle, wasted to the
 “ last degree, in a consumption, at the prime
 “ of life, forsaken by his physicians, and left to
 “ the merciless hand of death by his friends,
 “ was perfectly cured by drinking the Hot-
 “ well water, and now remains a living health-
 “ ful testimony of this truth.”

2. “ William Darvise, of *West-street, Lawford's Gate, Bristol*, aged 53, at the last extremity
 “ consumptive, a frightful skeleton, continually
 “ coughing, straining, and spitting day and
 “ night, appetite gone, sleep with his physi-
 “ cians vanished, and his friends hourly expect-
 “ ing his death, by drinking the Hot-well wa-
 “ ter this present summer, is, to astonishment,
 “ restored to appetite and sleep, hale and ac-
 “ tive, without cough, or any remaining symp-
 “ tom. This, in gratitude, he desires to be
 “ published, for the sake of others in such tabid
 “ languishing circumstances.

“ *William Darvise.*”

3. “ Mrs. Watkins, of Bristol College-green,
 “ certifies, That Captain Richard Clark, of
 “ Horsepath, aged 46, lodged at her house for
 “ about

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“ about seven weeks, in the year 1701, in
 “ which time the Hot-well water checked his
 “ melting sweats, which had been long lavish,
 “ and did take off his insatiable thirst. I am
 “ since assured by his niece that he enjoys per-
 “ fect health.”

“ It seems uselefs (continues our author) to
 “ insert parallel, or lesser cures, which lie by,
 “ for room-sake, to manifest the effective vir-
 “ tues of *Hot-well water* in the most miserable
 “ phthific cases; for it is, *instar omnium*, the
 “ last and only knowen subterfuge in *Hætics* and
 “ *dyfcrafi* of humors. It is a true and faith-
 “ ful febrifuge at all essays.”

1. “ By easy journies, Miss Lee of *Birming-* *Author's*
 “ *ham*, was conveyed to the *Wells*. To the *Cases.*
 “ dregs of the measles she owed her con-
 “ sumption. By profuse sweats, and colliqua-
 “ tive discharges of all sorts, she was reduced to
 “ skin and bone. Every morning the cham-
 “ ber-maid emptied a bason, almost half full of
 “ matter, of an intolerable stench.

“ She was so weak, that she could not walk
 “ up to the pump. She drank the water in her
 “ chair for the first six weeks, without the least
 “ visible amendment. After this, it began to
 “ have a sensible effect. It *threw* out large
 “ boils on her back. At the end of three
 “ months, her blood vessels seemed to be filled
 “ with fresh juices. She ate heartily, walked firm-
 “ ly, and rode on the *Downes*. The only remain-
 “ ing symptom was a dry teasing cough, which
 “ (as I have often observed) seemed now to be
 “ exasperated by the continuance of the wa-
 “ ters.

“ I advised her to go home, to drink spring-
 “ water acidulated with *Elixir Vitriol Acid*, and

C 2

“ *Butter-*

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" Butter-milk, with riding. After five years, she now continues well."

2. " Lord Stavordale, of a delicate frame, and fair complexion, aged about ten or eleven, came down to the *Wells*. By the advice of the most eminent, he had gone through the pharmacopaea, he was escorted by an eminent apothecary, armed with baskets of antidotes for every symptom. By cough, hectic, flying pains, and sweatings, he was so reduced, that he could hardly bear the motion of a post-chaise; he had thrown up pus. He was, at first, carried, in arms, to drink the water at the pump. In the space of six weeks, his symptoms vanished, he grew plump and active, galloped his little horse up and down, and continues well."

3. " Master Townley, of *Lancashire*, of the same age and complexion, came hither emaciated by a hectic fever, attended with a cough. By the waters acidulated with *Elixir Vitriol* alone, he went away recovered."

4. " Mr. Redpath of London, Merchant, after a pleuritic fever, laboured under a cough, hectic, sweatings, and rheumatic pains, which reduced him very low. He drank the waters for two months, summer 1761; and went away well; he returned last summer, and confirmed his cure."

5. " Mr. Evetts, of *Birmingham*, Merchant, came to the *Wells*, labouring under cough, hectic fever, cold night sweats, loss of appetite, and wasting. By drinking the waters but fourteen days, he returned almost as well as ever. He relapsed three times, and returned in the same condition, and always finds certain relief. He drinks Bristol-waters at home, through the winter, but confesses that one

" glass

"glass from the pump is worth a hundred at home."

6. "Archibald Menzies, Esquire, of *Perthshire*, a young gentleman of an athletic constitution, after some days and nights of hard drinking, and sleeping in wet cloaths, was taken with pleuritic pains, which yielded to repeated bleedings, blisterings, &c. Now and then, he felt a sensible weight in one of the lobes of the lungs, which as often was relieved by expectoration of fetid matter, striated with blood. After an eruption of one of these vomicas, observing a clergyman carried down the stream of a rapid river, he jumped in, and brought him out, in a cold frosty day. Anxious about restoring the unfortunate to life, he neglected to shift his cloaths. His symptoms returned with violence, and yielded to the same regimen.

"Improperly treated with steel-medicines by a physician, who mistook his disease for a disorder of the stomach, his symptoms returned with violence, these were relieved as before. By blisters and riding his sweats abated last summer. But his pleuritic pain continued to return every fortnight, or week, unless prevented by copious bleeding. He was only troubled with the cough when nature wanted to ease the lungs of congested pus. As soon as that was thrown up, he was easy till the next attack.

"By the joint advice of the Professors Rutherford and Whytt, he rode to Bristol, a journey of 600 miles. He found himself better on the road. Drowsiness and head-ach, the usual harbingers of his pleuritic paroxysm, seemed to indicate bleeding in *London*. He was also bled at *Bath*. His blood was always

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“inflamed. He arrived at the *Hot Wells* early
 “in summer 1761; he drank the waters for
 “three months, during which time he felt no
 “indications for bleeding, a reprieve unknown
 “for eighteen months. By way of prevention,
 “I advised him, however, to be bled. His
 “blood was pure as a lamb’s, I repented the
 “prescription. He left the wells strong, ac-
 “tive, and hardy. Dreading the effects of
 “northern winter air, I advised to go to *Italy* by
 “sea, which has completed his cure.”

7. “Summer, 1761, Lord Warkworth, aged
 “about 20, came down to the wells, with an in-
 “cessant teasing cough, sweatings, flying
 “stitches, loss of appetite, languor, and wast-
 “ing. By drinking the waters two months,
 “he got rid of every complaint.”

8. “James Caulet, Esquire, of Bath, was af-
 “flicted with night sweats, for six years. In
 “the hardest frost he could bear no more than
 “one blanket; his shirt was as wet as dung
 “every morning; he was chilly all the day. He
 “bathed at *Southampton* for two seasons in salt-
 “water, and to no purpose. In summer he
 “drank these waters on the spot. After the
 “first ten days his shirt began to be dry. His
 “sweats have never since appeared. He is now,
 “in his grand climacteric, nimbler than any
 “young man, and as fat as ever he will be.”

9. “Master Dampier, aged about 14, came
 “to the *Wells* emaciated, so that he was carried
 “in arms to and from the pump. In one day he
 “threw up matter to the quantity of a quart.
 “To the waters, little assisted by medicine, he
 “owes the complete recovery of his pristine vi-
 “gor, spirits, and activity.”

10. “Miss Serjant, aged 12, came to the
 “Wells in still a more unpromising condition.

“By

"By the prognostic of a physician well acquainted with consumptions, she was pronounced incurable. By the use of the waters, little assisted by medicine, she sleeps nine hours on a stretch, eats heartily, walks up and down to the Wells, and gallops on the *Downes*."

11. "Master Holiday, aged 14, at *Eaton-school*, was taken ill of a fever, which intermitted at last, and terminated in a cough, difficulty of breathing, loss of appetite, looseness, sweating and hectic. By the use of the waters, asses-milk, and riding, he recovered in the space of one month."

12. "Corporal Shaw, aged 23, of a consumptive family, came to the Wells, with a violent cough, spitting, sweating, languor, &c. By the help of one blister and the waters, he recovered so perfectly, in the space of three weeks, that he proceeded with his regiment to *Belleisle*."

13. "William Sprole, Esquire, caught a violent cold in the month of November last, for which he took variety of medicines during the winter. By the help of a blister, his complaints seemed to vanish, till in the beginning of this summer, he was taken with the *Influenza del aere*, at that time epidemic. He came to the *Hot Wells*, with a cough and spitting almost constant, want of appetite, languor, sweating, and hectic. By *Bristol Water*, *Asses-milk*, and *Riding*, he found a cure in five months."

N. B. The last five cures happened in summer, 1762.

CHAP. II.

*Of Diseases of the URINARY PASSAGES,*I. *Of the DIABETES,*

HIPPOCRATES makes no other mention of this disease, than as a symptom of a malignant fever. Galen confesses that he never saw but two examples; and therefore deigns not to give it a place in his book *De locis affectis*. Aretaeus was the first who gave any tolerable description of it; he calls it "A flux of humors, a colliquation of blood, and a continual effusion by the kidneys and bladder."

Definition. More properly, it may be defined, an unnatural effusion of urine, most commonly sweet, attended with thirst.

Causes.

2. Its causes are feverish disorders cured by excessive evacuations; bite of the serpent *Situla*; laxity of the renal glands; acrid serum; immoderate use of small liquors; excess of venery; stoppage of other secretions, &c.—Willis mentions one from indulgence in Rhenish wine, Lister one from Knaresborough water, and another from Balf. Capivi. The mass of blood is compounded of various globules. When particular globules take the road which nature affects not, there arise diseases said to proceed *ab errore loci*. If the emulgent arteries, e. g. come to be vitiated, they receive, and convey globules designed for nutrition to the kidneys. The renal vessels and glands become more and more disposed to this unnatural discharge.

Symptoms.

3. The symptoms are hunger and thirst insatiable; parched mouth; frothy spittle; varicous swellings

swellings of the abdominal veins, with a sense of constriction; heat; anxiety; restlessness; hectic; swelling of the loins, testicles, and feet; constant inclination to void urine limpid and sweetish; wasting, and death.—The symptoms may easily be accounted for. The liquor discharged differs from urine in taste, colour, and smell. It is really and truly an efflux of chyle, little altered by circulation; hence taste, wasting, &c. Urine is an excrementitious liquor. Dr. Keir made an experiment which determines the point. “He put a portion of diabetic urine into a vessel over a gentle fire. Before one half had evaporated, it deposited a considerable sediment. The whole mass was, at last, coagulated.—The same quantity of healthy urine, treated in the same manner, evaporated almost entirely, leaving only a little fetid sediment behind.”

A recent Diabetes easily yields to common *Curt.* helps, inveterate rarely. The curative indications are 1. To strengthen the organs of digestion, and the renal vessels. 2. To remove those obstructions which cause a diminution of other secretions. The first intention may be obtained from strengtheners, and astringents; incrasants and restoratives. The second from whatever restores perspiration. As it requires singular sagacity to distinguish between different and opposite causes, our wonder may cease, when we hear of diabetics swallowing baskets of drugs to little or no purpose. Under the direction of the most sagacious, there are but few diabetics who recover. The disorder has generally taken deep root before the patient submits. There are but few patients who do justice to their physicians or to themselves. If ever there was a disorder adapted to mineral waters, it may be said to be this.

this. In that chapter which treats of general virtues, the reader will find the specific qualities of the several ingredients rationally accounted for. Theoretical notions gather strength from the experience of Baccius, the prince of mineral water Writers. In treating of disorders of the urinary passages, he has blended them so together, that it is not so easy to separate his diabetic practice from the rest. In his book *De Thermis*, page 115, he expresses himself thus, “Renum
 “vero effectus, viscerum, et maxime hepatis,
 “cui videntur ministerio subesse, rationem in
 “balneis consequuntur, ac vesica renum. Vex-
 “antur autem renes calidae intemperiei affec-
 “tu ut plurimum, tum quia renum ipsorum
 “substantia laxa pinguitudine admodum in-
 “flammabili, participat.” Hence, from the slightest cause, they are apt to heat, and turn crude obstructions into stony concretions; hence also white fluxes, *Diabetes*, inflammations, ulcers, and diseases incurable. In all the affections of the urinary passages, every water conduces that has the property of absterging these parts, and so removing the cause. *Potulentae omnes aquae quae proprietatem habent per urinarios meatus abstergendi, et quae immediate veluti causam tollunt.* Nor are they less effectual, for being of that kind, which divert the fabulous matter by stool, *quae communis est praxis in hac alma urbe Roma.*

He directs his first intention to that hot temperament which constitutes the basis of the disease. For this purpose, he proposes purging waters, *subtiles et mediocriter calidae essentiae aperientes, digerentes, vel non indecores, si ad robur conferendum ferro quatenus participant.* Such, in a word, as deterge and comfort at the same time.

These, and all such waters cure heat of urine, strangury, and dysury, nocturnal polutions, involuntary

involuntary flux of sperm, bed-pissing, the *Diabetic Flux*, with its concomitant, thirst inextinguishable. *Ex eadem involuntariam siccant seminis effluentiam, nocturnas pollutiones, improvisam per somnum emissionem, diabeticum fluxum, sitimque exinde natam inextinguibilem.*

Galen (in his book *De Ren. affectuum dignotione, ac medicatione*) after speaking of unguents and synapisms for strengthening the reins, adds, *Aquarum etiam sponte manantium usus, si nihil prohibeat. Maxime vero laudantur quae in potibus medicatis expurgando, pro ferri qualicunque impressione, vim quoque insignem obtinent roborandi, aeneae, ferreae, salsae. Extrinsecus balnea etiam ex ferro, plumbo, vel aliis mineralibus roborantibus.*

Of the power of Bath-water (in disorders of the urinary passages) I have given proofs unquestionable. Of Bristol-waters we now proceed to treat. "The Hot-well-water (says Underhill) is the true medela in that fatal dejection and dispiriting by urine, the *Diabetes*, as appears by the autography of the wells."

1. "Mr. William Gagg, of *Bristol, Castle-Cases*.
 "green, a very fat man, at his prime, was seized with so violent a *Diabeth*, that he made at least three gallons of very sweet urine, with a large quantity of oil swimming a-top; he could not sleep for either drinking or pissing, when, in six days (appetite gone) so run off his fat and flesh, that he was reduced to helpless skin and bones, deserted by his physicians (not sparing money) and given over by his friends (several of his neighbours then dying of the same disease, not knowing the waters use) resolutely cast himself on God's mercy, and the Hot-well-water (though ignorant of its use) imploring his friends to support him to the Hot-well, as their last cast of
 "kindness,

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“ kindness ; which, with difficulty, they per-
 “ formed, he fainting away every step, and even
 “ in drinking the water. Yet, to God’s glory,
 “ and their astonishment, his strength was so
 “ sensibly recruited with every glass, that he
 “ made them loosen him, pretending to walk,
 “ which his friends despaired of. He walked
 “ back, nevertheless, aided, now and then, by
 “ a sip of his holy-water-bottle, which, on the
 “ first trial, vanquished his insatiable thirst, and
 “ stopped his pissing, and so restored his deprav-
 “ ed appetite, that, at his return home, he ate a
 “ large favourable meal ; and, by drinking the
 “ water for some time, attained his perfect state
 “ of health, living many years after.

“ Signed, *Mary Gagg, his widow.*”

2. “ Mr. William Molyneux, of *Warrington*,
 “ certifies, that he was excessive thirsty, and
 “ made such lavish quantity of sweet urine, of
 “ diverse colours, a thick oil swimming a-top,
 “ that, in three weeks time, he was reduced to
 “ such weakness (his Physicians directions inef-
 “ fectual) that it was with very great difficulty
 “ he got to Bristol in September 1695, and that
 “ the very first day, by drinking, his thirst
 “ abated, urine checked, and became brackish,
 “ he recovered his appetite that before nauseat-
 “ ed all flesh meat, and that, in eight days, by
 “ God’s mercy, he was perfectly cured, follow-
 “ ing the directions only of *Mr. Gagg*, a Baker,
 “ of this city, who, seven years before, had been
 “ cured of the same disease, by drinking the
 “ same water.”

“ *William Molyneux.*”

3. “ Among the *Hot-Well Votiva*, we find
 “ Mr. Rogers of *Birmingham* (all medicines
 “ failing)

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“ failing) signing his perfect cure at the age of
“ threescore.

“ *Thomas Rogers.*”

4. “ Mr. Ralph Millard, Inn-keeper, at the
“ *Swan, Coleman-street, London*, aged 50, in the
“ spring 1699, after great medick expence, and
“ given over by his Physicians, in a *Diabetes*,
“ was directed to the Hot-wells, to which place
“ he got with great difficulty; not being able
“ to scramble to his bed without help. By
“ drinking the waters, three weeks, he was so
“ invigorated, that Mr. Eaglestone of College-
“ green, Bristol, saw him lift a barrel of ale up
“ several steps, which three other men failed to
“ perform. In three weeks more, he returned
“ to London, riding the hundred miles in two
“ days.

“ *Joseph Eaglestone.*”

5. “ Mr. Cale, of *Bristol College-green*, aged
“ about 40, two years last past, was afflicted with
“ a violent *Diabetes*, which the Hot-well water
“ immediately stopped, and he hath remained
“ well ever since.

“ *Gilbert Cale.*”

6. “ Elizabeth Gettes, who keeps the *Boar-*
“ *Inn*, at Bristol, certifies, that Mr. James Darl-
“ ing, of *Oxon*, aged about 50, was perfectly
“ cured last summer, of a *Diabeth* in two
“ months, by drinking the Hot-well-water,
“ then lodging at her house, and now remains
“ in perfect health.

“ *Elizabeth Gettes.*”

7. John Blandy, of *Inglewood-house*, Esquire,
“ aged 63, in less than six weeks, this summer,

“ was

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" was perfectly cured of a *Diabeth* by drinking
 " the water, then lodging at my house.

" *Elizabeth Browne.*"

8. " William Beckford, of *London*, her Majesty's
 " fopster, aged about 40, lodging at my house,
 " was cured in thirteen weeks of great weak-
 " nefs, depraved appetite, decayed strength,
 " and Diabetes, after other means had failed.

" *Anne Green.*"

His list of Diabetics concludes thus.

9. " There is also a certificate of Captain
 " Robert Ham's cure, at the age of 77, by
 " constant drinking for eight months."—He
 adds, " Instances seem needless, the use of the
 " water being now so effectually known, for a
 " most sovereign remedy, even at the *acme*, and
 " last extremity of a *Diabetes*."

To Underhill's catalogue, I beg leave to add
 the following, partly from undoubted authority,
 partly from my own knowledge.

10. " John Strachan, Esquire, of Dorsetshire,
 " came to the Wells, twelve years ago, labour-
 " ing under a Diabetes. Finding but two
 " chamber-pots under his bed, he ordered
 " more. The chamber-maid brought up half
 " a dozen; at sight of which he said, These,
 " my girl, are no more than six thimbles; did
 " not modesty forbid, I could fill them all be-
 " fore your face: bring me a small washing-
 " tub. She brought him one that held two
 " pails; this he filled every night. Before he
 " rode out, he used to fill a common chamber-
 " pot two or three times.

" His appetite was ravenous; of bread he
 " used to eat sixteen French penny rolls a day.
 " When he returned from airing, he used to

" eat

“ eat up a whole fowl, and dine as if he had not eaten a morsel.

“ For the first five weeks, he drank two, three, four gallons a day. Reproved, he used to answer, I came hither to be cured, and am determined either to be killed or cured. About this time he began to mend, and was called away. Two or three months after, he returned, drank the waters, as before; and, in five weeks more, went away, in perfect health, eating, drinking, and pissing no more than any other man.” *N. B.* He lodged at *Bishop's*, in the Well-house.

11. “ Mrs. Sugden, aged about 50 (from cold and watching) fell into a Diabetes. After drinking the waters but a fortnight, she mended so much, that she could sit three hours, without making water. By five weeks drinking, she recovered.”

13. “ Mr. Biss, of Tower-hill, by frequenting this well, was cured of a Diabetes.”

14. “ Dr. Maddox, late Bishop of Worcester, came to the Wells season after season, for a Diabetes, and always found relief.”

15. “ Nine or ten years ago, Mr. Sewen, from *Swansea*, in *Wales*, aged about 50, was brought to the Rock-house in a horse-litter, so weak that he could not sit up in bed, almost a skeleton. The water was carried to him for the first three weeks; he made thrice as much water as he drank. In about six weeks time, he walked over to the pump, where he drank the waters for about four months; at the end of which he left the wells in perfect health.”

16. “ Mrs. Piper, of Broughton-street, London, came hither once or twice, almost dead, of a Diabetes, and is now recovered.”

17. “ About

DISEASES CURED

17. "About eight years ago, a farmer from
"Worcestershire got so well in three weeks, as
"to continue so ever since."

18. "J. Browne, a butcher of *Norwich* was af-
"flicted with a *Diabetes* for seven years, he had
"tried variety of prescriptions. After he had
"drank the Bristol-waters fourteen days only,
"playing at *Bishop's* billiard-table one day, he
"found himself perspire. He went to bed,
"drank half a pint of Port-wine hot, and sweat-
"ed for the first time in seven years. After
"this, he continued to sweat on using exercise.
"After a stay of three months, he went home,
"and drank the waters there during the win-
"ter. He returned in the summer, tarried
"four months, and went off perfectly reco-
"vered."

19. "Mr. Robertson, near *Cork*, came to
"the *Hot-wells* last summer, 1761. His symp-
"toms were thirst inextinguishable, raven-
"ous appetite, parchedness of the mouth and
"throat, heat of the stomach and bowels, va-
"ricose swellings of the abdomen, with a sense
"of constriction, as by a cord, anxiety, restless-
"ness, wasting, with a constant desire of mak-
"ing water, which tasted sweetish.

"The decoction of *Bark*, *Rhubarb*, &c. was
"the chief medicine which I ordered, with the
"*Elixir Vit. Acid.* By these his symptoms
"were rather mitigated than removed. He
"staid almost the whole summer; to his former
"complaints, was added a sort of a paralytic
"string-halt of his lower limbs. In this condi-
"tion, he returned to Ireland, where he staid
"the winter. The effects of the water, nou-
"rishing diet, and alum-whey, conspired, how-
"ever, to restore him greatly before next
"spring. Hither he returned in May, much
"mended,

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" mended indeed. He had recovered his flesh
" and strength greatly, his lameness is almost
" gone, his appetite is now moderate, his thirst
" is not so great. His urine still exceeds the
" quantity drank, and tastes sweetish. By per-
" severance, he seems to be in a fair way of com-
" pleting his cure."

20. " James Gladshall, of Yorkshire, came
" to the Hot-wells, Summer 1761, in a confirm-
" ed Diabetes, and was cured in the space of
" two months."

21. " Winter 1762, an old farmer came to
" the Wells in a Diabetes, and went away so
" much benefited, that he declared, he would
" return every year, until he was cured."

22. " Mrs. Fleming, of the South Parade,
" Bath, aged 70, corpulent and tall, laboured
" under great thirst, parched tongue, fever,
" and flux of urine; so that her strength was
" greatly impaired, and her flesh much wasted.
" Under these circumstances, I persuaded her to
" go to *Bristol*, where (by drinking the water
" but one fortnight) her tongue became moist,
" her urine lost its sweet taste, and was reduced
" almost to its natural quantity. Contrary to
" my advice, she left the salutary spring. Her
" symptoms returned. Three months after she
" had again recourse to the waters, staid one
" month, and was almost completely cured.
" Contrary to my advice, she returned again
" before her cure could be confirmed. She is
" now almost well; proposes again to have re-
" course to the healing spring, where, doubtless,
" at her age, she will find health."

II. Of GRAVEL and STONE.

1. PAIN of the kidnies, ureters, and bladder, *Definition.*
from impacted matter, is called Gravel or Stone.

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2. The

Cause.

2. The causes are luxurious as well as indigestible food; indolence; old age; rheumatism; gout; tartareous wines; hereditary taint, &c.

Symptoms of Stone in the kidneys.

3. The symptoms of Stone in the Kidneys, are intense or heavy pain of the loins; heat, nausea; vomiting; costiveness; exacerbation of these symptoms after meals; sandy, bloody, and sometimes purulent matter; suppression of urine; coma; inflammation; ulceration; and consumption. The left kidney suffers oftener than the right.

Stone in the ureters.

When the Stone falls down into the ureters, the pain increases; the leg feels benumbed; the testicles are drawn backwards; and the urine is, in part, suppressed.

Stone in the bladder.

The stone of the bladder is attended with pain, difficulty, and continual desire of making water; tension and pain of the colon; titillation of the glans penis; tenesmus; looseness; slimy water; bloody water after riding, with increase of pain in the bladder, ureter, and nut of the yard.

Diagnostics.

4. The Stone of the kidneys is distinguished from the lumbago, by vomiting, and sandy urine; from the colic by the pain being higher, with a sense of rumbling backwards; from hysterics, because this is increased by glysters.

Prognostics.

5. In the stone of the kidneys, there is great danger, by reason of inflammation, ulceration, and suppression of urine, its concomitants. It is easier dissolved in adults than in children. If the kidneys are ulcerated, the case is desperate. Suppression of urine, coldness of the extremities, and convulsions, presage death. The stone of the bladder may be extracted, that of the kidneys rarely.

Cure.

6. There is one cure of the fit, another out of the fit. The fit is allayed by subduing the inflam-

inflammation, and spasm. 1. By bleeding. 2. Glysters. 3. Emollient decoctions. 4. Tepid baths. 5. Opiates. 6. Rest.

Out of the fit, this disease is to be attacked,
1. By Lithontriptics, rest, and keeping the belly rather soluble. 2. Diet.

In bloody water, lime-water, arabic emulsion, *Bloody water.* and manna, are antidotes.

Gravel yields to waters ferrugineous, diuretic, and alkaline; such as the Seltzer waters.— In bloody urine, proceeding from laxity, debility of the vessels, or fusion of the humors, Baccius (from experience) strongly recommends the waters of *Grotta, Porretanae, Albulae, &c.* *Quae et arenulas, calculumque, tam e vesica quam e renibus contere ac protrudere pollicentur, et urinas provocare.* On the subject of gravel and stone, he quotes that saying of Leonellus, a noble physician, founded on experience, *Qui aquis Thermalibus non curantur; nunquam curantur.* Mineral waters he recommends for many purposes. From the first passages they extrude superfluous humors; cleanse the urinary passages, even to the bladder; and, if they break not the stone, carry off the sandy particles, which add to its weight: They strengthen the bowels, and thus remove their aptitude to produce calculous concretions; *Sola aqua Anticoli Romae assidue epota habetur amuletum quoddam ac praeservativum.* From Aetius he quotes a flagrant example of the particular prerogative of water, which not only proves its absterfory power, but its moving, Lib. ii. cap. v. *Ad extrudendum impactum in vasis urinariis, vel in renibus lapillum frigidam aquam frequenter & acervatim aegro bibendam jussi, unde, corroboratis renibus, oclusis in illis lapidis expulsus est.* What seems surprising, indeed, he observes that waters naturally petrescent possess a dissolving

DISEASES CURED

ing quality, internally administered. *Nam, in omni fere medicinae usu, satis quisque debet contentus esse experientia. Unius rei non est eadem dispositio intra ex extra, adhibitae. Aqua haec super terram, lapidem gignit; ebibita detergit extenuatque evidenter lapidem, et ducit arenulas. Tales effectus contrarios manifeste videmus in Albulis.* The waters of the river *Anio*, wherever they touch, turn earth, wood, and bark, into stone; its streams are mixed with the turbid *Tyber*, and drank almost all the year. It is, nevertheless, well known, that the people of Rome rarely feel the stone or gravel; *rarissimi tamen lapidum vitia sentiunt, nec harenulas.* Page 116, he mentions many waters called *Petrae*, or petrescent, which were daily and successfully administered in disorders of the urinary passages, in *hisce affectibus, antiquissimae laudis. Acidae subinde aquae, quarum in renibus, vesicae, & meatibus urinariis expurgandis prima est praerogativa, qualis Anticoli in Campania, acidula in Bergamensi, aliaeque in Germania, quae omnibus in privatibus potibus bibuntur.*

From
laxity.

Hoffman places the cause of gravelly complaints in laxity of the urinary passages. *Toni renalis nimia resolutio morborum qui renes occupant potissima causa, et origo est. Qua de causa temperata astringentia, et roborantia, in calculo tam praeservando, quam curando palmam caeteris arripiunt.*—If the testimonies of Aetius, Baccius, and Hoffman are to be depended on, alleviations and cures may be expected from Bath and Bristol waters. Of the former we have given proofs unquestionable, proceed we now to the latter.

Where there is a stone actually formed, Bristol-waters allay heat, dilute acrimony, and prevent future accretion. In actual fits of stone and gravel, these are not the remedies. In the intervals,

BY BRISTOL WATER.

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intervals, Bristol-water, balsamics and other medicines do much good. In gravellish complaints they often cure. In confirmed stone, I know no remedy but the knife.

Underhill (page 38) speaks thus. "The Stone seems to be produced from the falso-terrene part of the blood, by too hot a ferment boiled into hardness, as brick-makers form their clay. Though the hot-well may not be the true saxifrage water, it certainly washes the gravel out of the kidneys, and other aqueducts; and, by checking inflammation, prevents its future increase; an excellent preventative, doubtless, of those racking hereditary diseases, *Stone and Gout*.

1. "Mr. Eaglestone of Bristol, aged 21, was *Caser*. afflicted with a most restless pain in his back, and difficulty of making urine, voiding sometimes sand; whence he concluded it to be the stone, his father being tortured by it many years. By drinking two quarts of Hot-well water, fasting, at home, every morning, he was cured. Gravel came off in quantity, his appetite increased, his sleep was restored, his retentive faculties were fortified, his thirst abated. He was so completely cured, that he has continued now twenty years free from paternal disease, and every symptom of urinary disorder."

2. "Mr. Blanchard, of *Dolphin-Lane, Bristol*, certifies, that his son, aged six, had a total stoppage of urine for three days and nights, almost racked to death. His physicians told him there was no cure but cutting. By drinking the hot-well water for half a year he was perfectly recovered, and remains in good health, now fourteen years old.

"Giles Blanchard."

DISEASES CURED

3. " Mrs. Jochem, of *Bristol-key*, aged about 30, languishing under insatiable thirst, loss of appetite, and pissing of blood, tired out with ineffectual prescriptions, applied to me in June. She drank the hot-well water, mornings and evenings. Her thirst abated, her appetite was restored, her *miſtus cruentus* was checked, she is now breeding, as she herself certifies.

" *Bridget Jochem.*"

To Underhill's let us add the two following cases, which fell under my own observation.

4. " Mr. Martin, Purser of a ship of war, was afflicted with a diarhaea for six years, for which he had undergone variety of regimens. He was also subject to gravelly complaints, voiding great quantities of sabulous matter. By drinking this water two months only, he was completely cured of both ailments, without the help of one medicine."

5. " Mr. Fitch, a young gentleman of Dorsetshire, subject to gravelly complaints, forcing a resty horse over a bridge four years ago, sprained his back. Hence racking pain, bloody urine, and vomiting, without sleep, for three weeks. He was bled thrice, and was otherwise judiciously treated by Dr. Cumming of Dorchester, who succeeded so far as to check the vomiting; the bloody urine remained, with sickness, languor, pain, &c. He set out for Bristol, and was three days in performing a journey of 60 miles. The bloody urine ceased the first week; he drank the water last summer, and has now recovered flesh, strength, and complexion, with

" the

“ the reliet only of a dull pain about the regi-
 “ on of the loins, which seems rather to be gra-
 “ vellish, as he passes some now. For this he
 “ drinks the water again.”

In *Haemorrhages* of all sorts, proceeding from *Female* increased circulation, Bristol-water bids fair, *complaints.* particularly in immoderate discharges of monthly evacuations, as well as in weakness of another sort. Some have born up under one or other of these complaints, sometimes both, for years. False delicacy has made women conceal their infirmities, or trust so long to family receipts, that wasting, loss of appetite, indigestion, fever, and unnatural discharges, have, at last, drained the body to a skeleton. Darting pains, excoriations, and ulcers, are sometimes the consequences of local disorders, and sometimes of venereal infections, unknown and neglected. Of female disorders I have treated in the third part.

The cure must be adapted to the cause, constitution, and stage of the distemper. To those who can conceive the *modus operandi* of Bristol-waters, it will hardly seem incredible to affirm, that, in both disorders, Bristol-waters perform cures ; and, where they fail of performing complete cures, they mitigate the symptoms, and render life comfortable. In most cases Bristol-waters may palliate, but there are cases which require more powerful aids. With one prescription, I have dismissed many who counted upon returning every season for life.

“ In strengthening the viscera, and in sterility from debility, or any *fluor*, or slipriness of the parts, Bristol-water is of excellent use. Of this I could give some frequent instances, but dare not without leave, for fear of offence,

"which will (I hope) pass for present excuse," says *Underhill*, page 21.

Gleets.

GLEETS proceed sometimes from simple relaxation of the glands, sometimes from corrosion, or exulceration. Venereal taints sometimes corrode the prostate glands. The glands of the urethra are ulcerated by acrid gonorrhœas, or corrosive injections. These become schirrous or fistulous, and often remain after salivation.

Cure.

When astringents, balsamics, and all the other artillery of the art, have been, in vain, expended, Bristol-waters have subdued that hectic, which is the concomitant of gleets, washed away the tainted juices, and cicatrized the parts. To relate histories were impertinent. Experience gives daily proofs of the doctrine.

BY BRISTOL WATER.

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CHAP. III.

Of DISEASES of the STOMACH and GUTS.

TO mention diseases of the first passages ^{*Diseases of the first passages.*} without confirming them with cases, seems inconsistent with my plan. To omit diseases merely to cover indolence, contradicts medical justice. Of the power of Bath-waters, I have given unquestionable proof. Nor are the Bristol-waters destitute of their virtues. That Bristol-water creates appetite, is a fact notorious; that it removes heart-burns, squeamishness, and stomach-aches, is a fact equally notorious. —“Six years ago, I remember Mr. Garden, of Troup, a gentleman of Aberdeenshire, came to Bath for an obstinate pain in his stomach. Medicines he had tried to no purpose. The Bath-waters increased his disorder. By drinking Bristol-water but one fortnight, he was perfectly cured, and now confesses his cure.”—Patients labouring under habitual diarrhaeas pay their annual vows to St. Vincent’s well; if they meet not cures, they generally lay in a stock of health sufficient to carry them thro’ the winter. Costiveness is so common a complaint among Bristol-water drinkers, that we generally guard against it in our first prescriptions. If the reader will but take my word at present, he may find more authentic proofs, if this work finds merit enough to bear a second impression.

CHAP.

CHAP. IV.

Of EXTERNAL DISORDERS.

*External
disorders.*

FROM what has already been advanced on the subject of the powers of the particular principles contained in waters in general, we may reasonably conclude that Bristol-water has its external virtues as well as others.

Underhill, in his page 28, expresses himself thus: "The *Scorbute* is *Proteo-mutabilior*. From "a salt diathesis of the blood, the acuated serum espuated among the muscles is a *Rheumatism*, on the hip a *Sciatica*, on the lungs a *Catarh*, in the guts a *Dysentery*, or *Diarrhoea*. "By all the skill that I pretend to, the Bristol-water bids fairer to cure external disorders than pearl preparations.

Cases.

1. "Mrs. Watkins, of Bristol, from the West Indies, breaking out with fiery scorbutical eruptions all over, was perfectly cured, in three weeks time, by drinking the Hot-well water."

2. "William White, of Bristol, was afflicted with sores, fresh arising, and constant running white blisters from both his elbows to his fingers ends, called St. Anthony's fire, that he could not help himself. After various other remedies, he was at last cured by drinking, and bathing in the Hot-well water."

3. "John Sanders, of Bristol, had a great weakness and lameness, his knees and body blistered, and spotted all over, and almost eaten up with the *Scurvy*. By drinking the Hot-well water, he was perfectly cured."

4. "Mr. Packer, of Bristol, wine-cooper, certifies, that his brother had an ulcer of seven
"years

“ years standing, in the calf of his leg, from a
“ *gun-shot-wound*. After all remedies tried in
“ vain, he was cured by drinking this water six
“ weeks only.

“ *Thomas Packer.*”

5. “ John Belcher, of the *Castle Precincts, Bris-*
“ *tol*, at four years old, had an ulcer in his an-
“ kle four years, with a hole quite through, out
“ of which came several bones, being all the
“ four years under pennance, was at last per-
“ fectly cured by bathing and drinking.

“ *Jane Belcher*, his mother.

6. “ Mary Ayliff had a tumor in her lower
“ lip, of the bigness of a hazle-nut, and hard-
“ ness of a stone, continually running at the
“ mouth, as if salivated, and blind with the same
“ carcinomatous humour, for at least fourteen
“ days, judged an incurable cancer, and so left,
“ after four years trial, in despair. By drink-
“ ing, and bathing the parts, she is of perfect
“ sight, and good health, praising God, and de-
“ siring this publication for the sake of others
“ under the like melancholy circumstances.

“ *Mary Ayliff.*”

7. “ Mr. Lucas’s son, of Bristol, at four years
“ old, had his arm miserably swelled and inflam-
“ ed, running at eight or nine holes, deemed the
“ *King’s Evil*, and incurable. By gentle purg-
“ ing, drinking, and bathing, he was perfectly
“ restored.

“ *Eliz. Lucas*, his mother.”

8. “ Miss Lancaster, of Castle-green, Bristol,
“ at six years old, had the King’s-evil running at
“ one finger, out of which came a bone, with a
“ running

DISEASES CURED

“ running in her left cheek, and left hand ;
 “ her foot and toes hard, and cruelly swelled. By
 “ drinking, bathing, and medicines intermix-
 “ ed, she was cured.

“ *Mary Lancaster.*”

9. “ Mrs. Demster, of *College-green, Bristol*,
 “ had her sight so depraved with an inflamma-
 “ tion, supposed to be the *Evil*, that, for four
 “ months, she could not bear the light. After
 “ all other unsuccessful trials, she drank, and
 “ bathed her eyes, and is now, after ten years,
 “ quite well.

“ *Sarah Demster.*”

10. “ Thomas Reynolds, of Bristol, Mason,
 “ had the *Evil* six years, running quite through
 “ his thigh, scars dismal, out of which worked
 “ several bones, one an inch broad, and two
 “ inches long. After K. James’s fruitless touch,
 “ with the miserable slashing of surgeons, he was
 “ reduced to skin and bone. By drinking the
 “ water in great quantities, and constantly moist-
 “ ening the parts with rags, dipped in the wa-
 “ ter, he is now, and has been well for years
 “ past.

“ *Thomas Reynolds.*”

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PART V.

OF THE

MEDICAL USE

OF

SEA-AIR and EXERCISE.

CHAP. I.

Of SEA-AIR.

FOR common purposes, practice has provided familiar remedies. In diseases which ^{Introduc-} require uncommon efforts, patients are too often pronounced incurable. The revival of old doctrines, and the introduction of new, have ever been attended with difficulty. Lessons of instruction are insults to men of eminence; rather than bend, they jogg on in the same blind circle of invariable nothings. The *Use of Sea voyages in medicine*, was a doctrine much practised among the antients. Dr. Gilchrist of *Dumfries* is the only modern who, to my knowlege, has professedly attempted to revive the practice.

Endemial

Endemial diseases depend on that general constitution of air which arises from particular soils and climates. The general constitution of this island is cold, moist, turbulent, and variable. Laxity of solids, languid circulation, and vitiated fluids are the natural consequences. Diseases arising from such solids, and such fluids are rheums, glandular obstructions, plethoras, fevers, consumptions, vapors, &c. Sailing is particularly adapted to such diseases; so are Bristol-waters. The situation of *St. Vincent's well*, is happily accommodated to sea-air and exercise. Bristol-waters save many whom distant art cannot relieve. Sailing has saved many whom neither medicines nor Bristol-waters could restore. Of Bristol-waters I have already treated. Sailing is my present theme. From testimonies of the antients, from Dr. Gilchrist's most excellent *Essay*, and from observations, illustrated by cases, or facts, it is my purpose still farther to extend the utility of sea-voyages in medicine.

Air little known.

I. AIR is a word that fills the mouth of every babbler. Without experiment, some damn London air, others that of Bath. Multitudes live in London to green old-age. Others breathe best in Bath. The fumes of coal, and steams of mineral waters are condemned for the very virtues which they possess. There are hardly two cities in the world more healthy than London and Bath. Supposed unwholsomeness of air is one of our vulgar errors. From experience we learn, that sick people, carried on shore, recover quickly. From experience we also learn, that sick people, carried on board, recover as quickly. Diseases proceed not from air, but from the corruption of the air. The doctrine of *ventilators* confirms the position. Foul ships, and foul jails,

jails, are equally infectious. By extracting foul air, ship-crews are daily saved. For this very purpose we behold a ventilator placed on the top of *Newgate*. One man's meat (we commonly say) proves another man's poison. So may we truly say of air. Dogs live on the same food with men. One dog swallows as much *crocus metallorum* as would kill ten men. One man swallows as much *nux vomica* as would kill ten dogs. Of the causes of things we are ignorant. Ignorance of effects proceeds from indolence.

Of the constitution of land-air we have accurate accounts. Of sea-air we know but little. Great are the effects produced by a fluid heavy and elastic. From the whole terraqueous globe there constantly evaporate particles more or less perceptible. These exhalations differ according to the salubrity or insalubrity of the bodies from which they flow. Hence healthful and unhealthful situations. Hence endemial disorders. Hence particular diseases.

2. One half of the globe is covered with water, perhaps more. Sea-salt seems to be the ^{Salt the chief parent of wa-}parent of that bituminous matter which fills the caverns of the earth. This opinion gathers strength from the observations of *Shockius*, and other Dutch naturalists; for, in digging turf, many leagues from the sea-shore, salt-water has been discovered. Common esculent salt may be extracted from turf, as also from coal. When the unctuous matter of sea-salt happens to mix with sulphureous marcasites, it excites a vapor. When this vapor impregnates light earth, near the surface, in a boggy place, it constitutes turf. If it meets with a soft iron ore, it constitutes coal. From the earth vapors of various mixtures constantly ascend. From the surface of the sea vapors constantly ascend, greater, perhaps,

haps, in proportion, than from the earth. In the Mediterranean sea alone (according to computation) 5280 millions of tons are computed to arise in the space of a summer's day; farther south more.

*Sea-air
humid.*

3. Evaporation goes on faster in extreme cold, particularly the spirituous part. Sea-air is therefore more humid.

*Sea-vapors
productive of
air.*

4. Sea-vapors generate air more than exhalations from land. Hence it is that winds blow more frequently and variously at sea; and, with respect to land, from the sea. Hence in Britain we have them two thirds of the year in the southerly or westerly points. Hence, storms continue longer at sea.

*Sea-air
purer than
land.*

5. Land exhalations arise from numberless different substances. Hence different temperatures.—Sea-air is more simple, uniform, and elastic; nor is it affected by distant exhalations from land.

Land-air is stagnated, as appears by clouds, and haziness, discoverable on mountains.—Sea-air meets with no impediment from hills, forests, &c. For this reason, it is purer, and has a quicker progression. Stagnation is also prevented by currents, flux, and reflux, &c. Winds are therefore more violent, especially, as they are charged with saline particles. For,

*Sea-air
warmer.*

6. Sea-salt is raised in the spray. Hence it is, that sea-air is sensibly warmer. Seamen seldom complain of cold; they grow chilly immediately when they come into soundings. Earth is an inert body, cannot be heated above a foot deep, and cools soon. Hence it is, that, with respect to our situation, north and east winds are coldest. Our sea-coasts are rarely subject to hard frosts, or lying snow. In such places we have more open seasons, and early harvests.

7. Winds

7. Winds, in some places, have very opposite effects. In the *East Indies*, land winds are close, sultry and parching. Sea-breezes are cool, refreshing, and comfortable. This seems a paradox, but it admits of an easy solution. The scorching heat of the land-wind proceeds from its blowing over vast deserts of burning sands. Sea-air proceeds from particles moist, and continually in motion. These are exceptions only to general rules. In *Jamaica*, the sea-breeze is called the Doctor. In *Minorca*, Dr. Cleghorn observes (page 4) "That, during the summer, in the mornings and evenings, there is a perfect calm. But the middle of the day is cooled by refreshing breezes, which rise in the east, and follow the course of the sun, increase gradually till two or three of the clock, and then die away insensibly as night approaches. If these breezes intermit but for a day, the natives themselves grow languid and inactive. The south and south-east winds blow over the scorching deserts of *Barbary*, and are the most unhealthy." Page 2, he observes that nature performs a sort of analization of salt. "In windy weather, the spray is driven over the whole island, as appears by the briny dew being found on vegetables, in the most inland parts. Utensils of iron, or brass are, hence, susceptible of rust."

8. Sea-air is possessed of alterative virtues, from the saline corpuscles imbibed by the inhalant vessels. The marine vapor is not humid, i. e. cold and relaxing, as simple water is, but dry and acrid, or of a penetrating active nature. From this principle it was that maritime places were judged proper where there was occasion to warm, resolve, and deterge. *Loca vero maritima ubi detergendum, aut calefaciendum, aut aperi-*

endum conveniunt, says Oribasius Medicin. Collect. lib. vi. cap. 23. That air which arises from slow running rivers, lakes, or canals, is unwholesome; relaxes and fills the head with earthy exhalation. Sea-air is aperient, and cleanses the body from impurities. *Etenim fluminales vel portuosae, atque stagni-navigaciones incongruae judicantur, quoniam humefcentes caput infrigidant exhalatione terrena: maritimae vero latenter atque sensim corpus aperiunt, et salsae proprietatis causa, corpus adurunt, atque ejus habitum quadam mutatione reficiunt, says Caelius Aurelianus, Lib. i. morb. chron. cap. 1.*

9. In the air there is a certain vivifying principle, necessary to life, of which we have no determinate notion. The unhealthiness of particular habitations is owing perhaps to the want of this principle. People inhabiting great cities, or low confined situations, are obliged to change the air for the preservation of life, or the cure of diseases. That this vivifying principle exists more at sea than at land, we know from authority, as well as experience.

10. Consumptions are local affections, and external, in respect of air. To apply remedies to the part affected is the first intention. To cure ulcers of the lungs by remedies which affect them in the course of the circulation, is a round-about precarious method. — Various have been the forms of *Antiseptics, Balsamics, Healers, Dryers, &c.* which have been directed to be received by steam or fume; nor is the design contemptible.

11. Instead of these artificial applications, the ancients directed consumptives to medicated air. Those who had ulcerated lungs were sent to *Libya*; where, breathing in forests full of pitchy effluvia, they were said to live many years.—

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AND EXERCISE.

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By Galen, they were sent to *Stabiae*, situated between *Naples* and *Surrentum*. Elevated, and defended from east and north winds, and exposed to the south, this situation had the additional advantage of sea influence. A part of *Vesuvius* extended to *Stabiae*. The air was continually filled with sulphureous exhalations.

Endemial diseases, as already observed, depend on air, and other circumstances peculiar to particular soils or climates. In producing diseases, the power of air is superior to that of all the other non-naturals. Dr. Cleghorn, Professor of Anatomy in the university of *Dublin*; served as surgeon to Ofarrel's regiment. In his *Observations on the diseases of Minorca*, from the year 1744 to 1749, this most sagacious practitioner (page 65) remarks "However different the Spaniards be from the English in their meat, drink, exercise; affections of the mind, and habit of body; yet the health of both was equally influenced by the seasons. Epidemical disorders seldom or never attack one class of inhabitants, while the other remains unhurt; and, surprising though it may appear, it is, nevertheless, true, that the peasants, remarkable for temperance and regularity, and the soldiers who, without meat or cloaths, frequently sleep drunk in the open air, have diseases almost similar, both as to their violence and duration."

12. In every climate the heat varies morn, ^{Pre-emi-} noon, and night. In southern climates, days, ^{nence of} weeks, and months roll on without material ^{southern} change in the thermometer; at the same hour of the day. The excellency of southern air consists in its warmth and constancy. The pores are constantly open; thus are the lungs constantly relieved. While the Admirals Watson and

Pocock commanded in the *East Indies*, Messieurs Ives and Thomas were the surgeons of the naval hospital. "By accurate journals kept at the different hospitals, we learn, that, in their most extensive practice, they found but little material difference in the symptoms of diseases, from different latitudes, or even from different seasons (*Bengal* excepted) where the ground is swampy, and the heat excessive, particularly during the months of July and August. Of the sick brought ashore to Bengal-hospital, one in ten generally died. Of those landed at *Tillichery* and *Bombay*, not one in forty; and, on the coast in general, one in twenty."

"Of *Minorca*, Dr. Cleghorn observes (page 2) that the air is much more clear and pure than in *Britain*, seldom darkened with fogs. The summers are dry, clear, calm, and excessive hot; the autumns moist, warm, and unequal, at one time perfectly serene, at another cloudy and tempestuous. Nor are the summer and autumnal seasons much different from those of another. During the winter, storms are neither frequent nor of long continuance, though sometimes violent. The spring is variable bearing a stronger resemblance of the winter than the summer season. The changes of heat and cold are neither sudden nor great. In the compass of a year, the mercury (in Fahrenheit's thermometer) seldom rose above the 80th, nor fell below the 48th degree. In summer, there is scarcely ever four or five degrees difference between the heat of the air at noon, and at night; in winter, the variation is still less considerable." These and many other valuable observations are confirmed by a table kept for five years, exhibiting the greater

greatest, least, and mean height of the mercury, at a particular hour.

From this author's observations on the island of *Minorca*, we may form an idea of the air of the south of *France* and *Italy*, not far distant. There, even in the dog-days, the heat of the atmosphere seldom equals that of the blood of a man in health. Here, summer 1762, was warmer, more serene, and uniform, than any in the memory of man. By a diary kept by Mr. Renaudet, an ingenious surgeon, at Bristol Hot-wells, in the month of July, 1761, the greatest height of the mercury was 71, kept within doors, and that only on the 24th. By a diary kept for the month of July, 1762, the mercury rose to 72 at a medium. Summer 1762, was, after the *Influenza*, uncommonly healthy. At Bristol Hot-wells, almost every disorder found relief; many remarkable cures were performed with the assistance of the waters, riding, and asses-milk only. The air of England, this last summer, was little inferior to that of Italy.

13. In this country, years, seasons, days, and hours, differ from one another. Our changes *British air changeable* are as sudden as excessive. In the space of twenty-four hours, the mercury rises or falls eight, ten, nay, twelve degrees. If every degree equals sixty miles of latitude, the difference of eight degrees equals 480 miles. What a change of climate in such a short space! To such vicissitudes are we daily exposed. May not this, in some measure, enable us to account for the inconstancy of our symptoms, as well as for the inconsistency of our tempers? From a consideration of the happy effects of summer 1762, can we longer continue ignorant of the necessity of cheating the winter by moving southward? By sea-air, sea-exercise, and changes of climate,

we may positively pronounce, that thousands might find cures, who fall annual victims to fashion, prejudice, and ignorance.

*Moist air,
its use.*

14. But, from experience we learn, that consumptives sometimes grow worse in pure, serene, dry air; and that they mend in seasons seemingly unfavourable, in air (as Fred. Hoffman expresses it) temperately humid. The lungs play incessantly; nature has defended them with a pituitous lymph, or watery mucus. Moist air, therefore, bids fairer for preserving them from inflammation than dry. It refreshes and ventilates the blood. The partition between the air and blood-vessels is very thin. How comfortable is a shower in great heats! In hot climates, people, almost suffocated, sit under the canopy of sail-cloth, constantly kept wet. Water, to a considerable height, is allowed to stand on the ground-floors. They may be said to dine in water. The cool sea-breeze brings on a breathing sweat; the sultry land-wind dissipates the blood to heat and putrescency. In ardent fevers, Boerhaave (Aphor. 743) expresses himself thus: *Curatio exigit aerem purum, frigidum saepius renovatum, potus copiosos, blandos, demulcentes, subacidos, aquaeos, humiditatem totius corporis, hauriendo aerem fumo blandum per nares, colluendo os, et guttur, lavando pedes manusque, fovendo spongiis calidis loca ubi plurima vasa contactu magis exposita.*

On the tops of high mountains, the air is light, people breathe with difficulty, have a suffusion of the eyes, and a spitting of blood. Dr. Gilchrist says, "I remember, on a sudden sultry heat, several, in one night, suffered a hæmorrhage from the lungs."

*Sea-air
vulnerable.*

15. Sea-air is a pectoral medicated, and directly applied to the lungs. Sea-water is used externally.

externally for ulcers, scabs, and sores. In some such state are ulcerated lungs. Sea-air is saturated with balsamic volatile effluvia, of a warm, resolving, deterging nature. Aretaeus, for accuracy and judgement, is a writer second to none. In his book *De Phthiſe*, he ſays *Ulceribus quiddam ſiccum marina ſalsugo communicat*.—Aetius (Tetrab. i. ſerm. iii. cap. 162) obſerves, that maritime places are proper for thoſe who are troubled with cold rheums, *Marinus vero per frigidioribus, et fluidis affectionibus utilis*. Under the head of Rheums may be comprehended thoſe diſorders called *Colds*, more particularly as they affect the lungs, by which, in a ſimple cough, is very often laid the foundation of a conſumption.—In all coughs, according to Celfus, (Lib. iv. cap. 4. §. 4.) long voyages, and living near a ſea-coaſt, are uſeful. *Utiles enim, in omni tuſſi, peregrinatio, navigatio longa, loca maritima*.

Strangers, who look upon the river *Avon* Banks of at low-water, readily pronounce it a ſtinking ^{the river} dirty ditch. From this vulgar error, ſtrangers ^{wholeſome} avoid lodging-houſes built on the bank. Theſe are generally filled by the weakly or infirm. Thoſe who keep carriages, or can ride or walk, dread the vapors which ariſe from the mud. They lodge at *Clifdon*, or at the bottom of the hill. In ſome caſes, diſtant air may be proper. When the river is low, the ditch is unſeemly indeed. Mud, in all countries, is dirty. But the banks of the river *Avon*, are conſtantly reſreſhed by the flux and reflux of the tides. The mud is ſaturated with particles ſaline and ſalutary. That air which enters by the back windows of the *Well-houſe* is drying, penetrating, and deterging, nature's baſam. The ſun conſtantly exhales theſe particles; they find imme-

diate admission by the air-vessels. So far from moist, such situations are the wholesomest and driest. Mr. Renaudet exposed *Salt of Tartar*, *Gunpowder*, and *Tobacco*, to the air, in his own apartment, in the *Well-house*. They retained their dryness surprisngly. With the windows open, in a house at *Clifdon*, he exposed equal quantities of *Salt of Tartar*. In the space of thirteen minutes, it ran into water on the hill. Below, it melted not till it had stood twenty-one. This gentleman is a valetudinarian; this situation agrees with him better than any other. This he has chosen for his dwelling, summer and winter. In one of his letters, dated *Jan. 22, 1763*, he expresses himself thus. "On the coldest day
 " of this winter, frost extremely severe, as last,
 " and every winter, I tried the heat of the wa-
 " ter at the pump, and found the mercury rise
 " exactly to the same point, as on the hottest
 " day of the summer.—I cannot help expressing
 " my astonishment at the rashness or ignorance
 " of those who impute the cures here performed
 " to the air and exercise of the *Downes*, damning
 " the waters as chips in porridge, and the river
 " as a dirty ditch. This very winter, as before,
 " I beheld objects who might truly be said
 " to have been sent down to die; some find
 " amendment, others complete recovery, with-
 " out stirring, some out of their own chambers,
 " others no farther than the pump, and the
 " *Avon-side*."

The fame of the waters invites a resort of company, greater than can at present be accommodat-
 ed. Additional buildings are wanting. From the Well to the *Ferry*, there is room for an extensive row of houses. Spacious houses, built in this situation, have particular advantages. They will be defended from the north and east winds,
 by

by a ridge of a hill, which forms a natural amphitheatre. They will be warmer in winter, provided they are well built. In the summer they will be fanned by those eddies which play between the cliffs. The materials may be dug out of their own foundations; by which an airy opening may be left between the rocks, and the back walls. The shaded walk may be widened and extended all the way. This will be a work of expence. The design is, nevertheless, worthy the attention of the present leasors; or, it is to be hoped, that their gains will awaken *Merchants-ball* the proprietors, to a sense of duty, not incompatible, perhaps, with interest. On the ground where the *Smelting-house* now stands, all along the opposite bank of the river, I dare prophecy that time will raise a row of lodging-houses.

16. There may be circumstances and occasions *Trips up and down the channel salutary.* which admit not of long voyages. For the purposes of sea-air and exercise, the Hot-wells are conveniently enough situated. I would not advise the tender and delicate to accept of invitations of dining on board of ships at *Kingroad*. Tides answer not frequently till it comes to be late. Such accidental jaunts are often more beneficial to the Faculty than to the sick. Consumptives would do well to interrupt their course of the waters, and take a trip down the channel by water. There are vessels which sail every tide from Bristol to every harbour or creek of South-Wales or the English coast. There are little towns at every harbour, where provisions and clean linnen may be had. In such places I advise the sick to land, tarry some days, or ride to some other creek, in quest of a vessel to bring them back. Those who can afford the expence ought to hire or keep a vessel of their own. Such

Such trips every one may bear; use will make the exercise familiar.

*Living a-
mong rocks
useful.*

17. Where voyages cannot be complied with, the sick ought to live on dry elevated shores, to ride often, and close by the sea, especially during the flowing tide, to be frequently among the rocks, to sail every day. In such air, consumptives live safer and recover faster than at *Hampsteads*, *Kensington-gravel-pits*, or *Mary-le-bones*, where they generally trifle away so much time, that the restorer of Lazarus can alone save.

Ruffel (*De usu aquae marinae*) says, "Among the great number of women who earn their daily bread in gathering shell-fish on the shore, you'll hardly find one whose teeth are rotten. Their gums, e. c. are firm, their lungs are sound, they are free from scorbutic coughs."

Gilchrist (p. 70) says, "A like observation I have made on a dry rocky coast, where the inhabitants are often in the sea, and eat shell-fish. Among these, consumptions are rare. In the inland country, not many miles distant, the soil generally dry, the disease is frequent."

C H A P,

CHAP. II.

Of SEA-EXERCISE.

§. I. **E**XERCISE may be distinguished into that which is performed by voluntary muscular motion, and that in which the body is passive. Other exercises have been adapted to medical purposes, while sailing has been neglected in a maritime country.

1. The first thing observable is *Sickness* arising *Sickness*, from mere consent of nerves, not from offending matter contained in the first passages.

2. The pressure of the air is much increased *Pressure*. by the quickness with which the vessel is driven before fair winds, as also against adverse.

3. By the rolling and pitching of the ship, *Rolling* particular sets of muscles are alternately kept in *useful* action, in order to maintain the equilibrium. Sailing is a compound exercise of gestation, spasmodic vomiting, and a singular action of air.

4. Sailing is an exercise constant, day and *Sailing* night, sleeping and waking. Sometimes it *constant* excites great perturbations; by use, it excites no *easy, and* irregular motion, or undue impetus. It is not *safe* attended with lassitude, or loss of spirits. There are few other exercises which can be undertaken by the weak, wasted, or colliquative. Sailing is safe, effectual, and easily sustained. I hardly know any degree of weakness, or circumstance that can forbid it; nor, in undertaking this, is there occasion for the precautions necessary in other exercises.

§. II. How *Sailing* produces its effects we are next to inquire.

1. Vo-

*Sailing, its
effects.*

1. Vomiting cleanses the first passages of humors, which, entering with the chyle, proved a continual fomes for impurities and disorders. In this it corresponds with the usual *praemittenda*, in regular medicinal courses.

2. Bare cleansing is not all. Vomiting derives a greater flow of blood and spirits into the parts. Thus it warms and strengthens. The continued nausea, giving a lasting contractility, restores the tone of the stomach and intestines; which, from natural weakness, or other vice, were unable to do their office. The invigorating power of sailing is evident by the costiveness and increase of appetite which it occasions. Upon this principle it is, that small doses of *Ipecacuana* cure obstinate and inveterate fluxes. —“ Captain Powel laboured long, in *America*,
“ under an obstinate diarhaea. Every method
“ was tried there, and in vain. He was order-
“ ed home on account of his disorder. Before
“ he reached the British shore, his bowels reco-
“ vered their tone. He soon returned to his
“ duty, and relapsed. He returned to England
“ in a worse condition. He drank the Bristol
“ waters for four summer months. He drank
“ the Bath waters. He swallowed astringents
“ enough to bark an ox’s hide; all to no pur-
“ pose. When he committed himself to my
“ care, he was emaciated, hectic, dispirited,
“ and purged usually sixteen or seventeen times
“ every twenty-four hours. I ordered him twenty
“ grains of *Ipecacuana* divided into four doses,
“ one of which was given every second hour.
“ The second produced a nausea, the third
“ a vomiting, which continued till six in the
“ evening, when he dined. He slept sound
“ all night without an opiate. When he awak-
“ ed he found himself uncommonly refreshed,

“ ran to the closs-stool, which he found dry, a
 “ thing uncommon almost for four years. He
 “ recovered, and has done his duty at *Gibral-*
 “ *tar*, and various other places. Now and
 “ then his flux has returned. To the same course
 “ he constantly applies, and finds relief.”

“ Captain Hugh Craig laboured under a di-
 “ arhaea for ten years. After prescriptions in-
 “ numerable, and receipts of all sorts, I advised
 “ the same medicine with the same success. He
 “ now does duty at *Gibraltar*.”

If the nausea of a day has (in cases innumera-
 ble) produced such effects, what may we not ex-
 pect by long-continued nauseas, repeated suc-
 cussions, and revulsions? To the commotion
 excited by vomiting, and not to the *Helebore*,
 may we ascribe those cures which mad people
 received, by sailing to *Anticyra*, *Naviget*, *Anticy-*
ram. Oribasius (*Medicin. collect. lib. vi. cap. 23.*)
 says, *Commotio quae in navigatione excitatur, vim*
habet Eleboro albo et levi persimilem. By this nau-
 sea, and rolling of the ship, obstinate diseases
 have been cured. Pliny (*Hist. lib. xxi. cap. 6.*) says,
Quinet vomitiones ipsae instabili volutatione commotae,
plurimis morbis capitis, oculorum, pectoris medentur;
omnibusque propter quae eleborum bibitur. Illa autem
quae fit procelloso in mari iactatio robustissimum homi-
nem non assuetum, vertigine, vomitu, anxietate intole-
rabili, ipso animi deliquio, afficit; hinc casu aliquando
morbos inveteratos sic sanari novimus, says Van Swie-
 ten, *Comment. in Aphor. Boerhaav. Vol. i. p. 34.*

3. The *Passio Stomachica* of the antients bears *Stomach*
 the nearest resemblance to our modern fashiona- *d disorders.*
 ble distemper *Vapors*. If we suppose an effete-
 nefs of blood, and a languid circulation in the
 capillary vessels, exciting an undue oscillation of
 the solids, we shall, perhaps, form some idea of a
 disease

disease perplexing, stubborn, and not altogether imaginary.

In disorders of the stomach of almost all sorts; in hypochondriacal, maniacal, nervous, and scorbutic affections, sailing was more depended on than *belebore*. In chronical disorders, strong and lasting revulsions are necessary. Diseases which seem even to be seated in the first passages, yield not always to common emetics. By frequent repetition, patients abhor them so much that they cannot be persuaded to use them even when life is at stake. Sea-sickness can be sustained for days, weeks, and months. *Si vero stomachus pituita impletur, utilis navigatio. Molestius si stomachus bile vitiosus. Necessaria gestatio, navigatio, et si fieri potest, ex nausea vomitus*, says Celsus, lib. iv. cap. 5.

Valentiora gestationum genera (in alto mari) vero his conveniunt, qui gravium morborum initia sic sentiunt, ut adhuc febre vacent (quod et in tabe, et in stomachi vitiis, et cum aqua cutim subiit, et interdum in morbo regio) aut alii quidam morbi, qualis comitialis, qualis insania sine febre, idem lib. ii. c. 15.

In parvis vero navibus, et magnis ferri, confert leprae, et hydropisi, et apoplexiae, frigiditati, et inflationi stomachi, quoniam commovebitur vomitus, deinde quiescit, quum coram littoribus sit navigatio. Sed navibus ferri in altum mare, est fortius in removendo aegritudines quas nominavimus, propterea quod secundum animum laetitia et tristitia diversificantur, et secundum membra nutrientia, eorum vero exercitium; corporis exercitium est sequens, says Avicenn. lib. i. sen. i. doct. 2.—*Quin et terra marique peregrinari multum juvat*, says Mead, *Monita et Praecepta med. cap. de insania*.—Caelius Aurel. (lib. ii. c. 14. de phthisi) says, *et propterea vehementer utilis navalis gestatio, atque longa*
navigatio

navigatio—et omne quod dare corpori fortitudinem potest.—Aretaeus (de curat. phthif.) says, if nothing forbid, let the sick be carried to sea, and there let him live. *Nam si recte habuerit aegrotans, in mari gestatio fieri poterit, atque ibi vitam degat.*—Again Celsus (lib. 3. cap. 23.) *Quod si vera phthisis, opus est longa navigatione, si vires patiantur. Si id imbecillitas non finat, nave tamen, sed non longe vetari commodissimum est.*—Pliny (hist. lib. 28. cap. 4.) recommends riding, in diseases of the stomach, and sailing in a phthisis. Mead (*Monita et Præcepta medica De febris lentis*) recommends change of air, and sometimes a long sea voyage. Nor has Boerhaave omitted sailing as proper means to break abscesses in the lungs, and to deterge them when broken. *Disruptio tentatur vapore calido, clamore, tussi, concussione in navi, vel rheda. Simulac signa docuerint apostema ruptum esse, utendum equitatione, veltione in rheda, vel navi.* Aphor. 857, 858.

4. In sailing, there is a perpetual ballancing *Sailing* from a continual change of the centre of gravi- *mixes the* ty. By this the solids act, and the fluids are *juices.* acted upon. The juices are mixed, comminuted, and propelled. An uniform elaborated blood is produced. Sanguification is particularly the labour of the lungs. By exercise, lungs impaired are spared their labour.

Sea-air acts in an undulatory manner, by which it obtains a greater efficacy, than when it acts by an equal pressure only. Low spirited people feel greater constancy in windy blustering weather, than in rainy or calm. In such seasons, the solids are relaxed; the humors therefore move more sluggishly.

5. Transitions of passions remove diseases inveterate. The mind has a powerful influence *Effect of* over *passions.*

over the body. Hopes and fears, gladness and despair attend a seafaring life. *Anima mixtos habet effectus ex tristitia et spe, timore ac periculo; modo gaudentibus et laetis, modo in agone existentibus navigantibus. Composita vim habent veterem morbum exigendi, et e corpore eluendi*, says Aetius *medicin. contract. tetrab. prim. serm. 3. cap. 6.* For ample proofs of the effects of passions, I beg leave to refer the reader to *Part VII.*

CHAP. III.

A COMPARATIVE VIEW of the HEALTH of LAND-MEN and SEA-MEN.

Sea-faring
people more
active than
land.

§. 1. SEA-FARING people are (*cæteris paribus*) more healthy than those who live on land." 1. *Navis non est locus ad alendos morbis chronicos*, says Ramazini, *de morbis artificum*.—*Qui in navibus degunt coloratiores sunt quam qui in paludibus*, says Aristotle. Aristotle's remark will hold good till time is no more. The inhabitants of fenny countries are of a sleepy disposition, and doughy pale complexion. Witness the *Dutch*. In the wilds of *Sussex* (it is notorious) the graziers fetch their wives from the hilly countries. For a year or two, the healthiest pine away, and die. Nothing more common than to bury half a dozen. Sailors, e. c. are healthy, active, generous, and brave. Puny delicate lads thrive on board; while elder brothers dwindle away at land.

Sailing
good in
over-
growing.

2. Wasting and growing too fast, not only puzzle the faculty, but often defy the power of Bristol waters. Sea-air and exercise produce alterations inconceivable. Land-men labouring of consumptions, and other disorders

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have recovered every day. Something, doubtless, may be owing to climate, when ships sail southward. In voyages from south to north, the effects are full as evident. Sea-exercise may be borne when no other can. *Multum enim virium adjicit haec navigatio (cymba molli, et delicata, et corpora implet)* say Forestus in his Observationes med. Lib. xvi.—*Navi autem vehi conducit debilibus; si placido navis feratur motu miram alacritatem, perspiratione aucta, solet excitare, famem augere, intestinorum digestionem promoveri,* says Van Swieten Comment. in Boerb. Vol. I. p. 34.—“In all cases curable, the sick always returned with more health, improved in flesh, strength, and complexion. If they were not cured, they were mended, says Gilchrist p. 84.”

§. II. Of all diseases which infest sea-faring people, *scurvy* is that most frequent; yet has this disease often been known to put on appearances more terrible at land, than at sea; nor are the causes vulgarly assigned productive of sea-scurvies. 1. Whoever consults Backstrom, Nitzsch, Dodonaeus, Forestus, Kramer, &c. will find that scurvies have raged in towns besieged, armies, and in inland countries; witness the German soldiers in Hungary, the Saxon garrison in Thorn, the besieged in Rochelle and Stetin: and, at other times, in whole countries; as in Erabant in the year 1556, and in Holland 1562. Scurvies have been epidemic in the Low-Countries, Pomerania, Lower-Saxony, Denmark, Sweden, Norway, Russia, Iceland, Greenland, Ireland, Great Britain, Newfoundland, Canada, Hudsons Bay, &c.—Diseases prevail often more in channel cruizes, than in the Atlantic ocean, or in voyages to the Indies. Inactive fleets have been *Inactive fleets scorbutic.*

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been

been over-run with scurvy. Witness *Hofier's* unhappy destination.—While *Matthews's* fleet lay at anchor, in *Hieres-bay*, sick were daily sent away to *Mahon-hospital*.—Commodore *Orborne's* crew was highly scorbutic; he begged leave to push to sea, for the sake of the sick; his expedient proved effectual.—While the ships ride at anchor at *Spithead*, and even in *Portsmouth* harbour, while they wallow in vegetables, and fresh provisions, they are often over-run with scurvy.

*Uncommon
scurvy.*

In Dr. Lind's holograph, Feb. 11. 1761, he expresses himself thus. "In the years 1759 and 60, an uncommon scurvy appeared in *Hampshire*. It began at our naval hospital in April 1759, slightly attacking those who were recovering from fevers. It continued till February; rarely did a man escape who had been long confined to his bed. Landmen and seamen were equally affected. It prevailed also among the French prisoners at *Polchester*, and *Winchester* castles. It attacked passengers who had been but a short time at sea. Nor did it spare the natives of *Hampshire*. The country apothecaries neither knew the disease, nor how to treat it. What is remarkable, this epidemic scurvy prevailed chiefly among our coasting ships of war. The *Jason* and *Deptford* were rarely at sea above forty-eight hours at a time; for twelve months before, their crews had lived on fresh provisions; they were, nevertheless, highly scorbutic."

*Sali anti-
septic.*

2. Those who fancy *muratic* scurvies, lay the blame on the quantity of *sea salt* used in preserving meat. Animal foods are all putrescent. In long sieges, where the people have been obliged to eat meat without salt, putrid fevers

fevers ensued. The *Tartars* use horse-flesh raw, and die of putrid disorders. Carnivorous animals stink abominably, when they break wind. Salt is manifestly antiseptic. Sea water has been successfully administered in the scurvy. Sea salt may indeed be so intangled in putrid animal foods, that its antiseptic virtue may be overpowered. The crews of some ships have become scorbutic soon after their putting to sea. The scurvy raged on board the *Centurion*, and the rest of the ships while there was plenty of fresh provisions on board, as was the case, when they left the coast of *Mexico*. Dr. Huxham has made the like remark of admiral Martin's squadron. Out of 4000, 400 returned in less than two months. *Excruciantur per plurimi ulceribus foedis, lividis, sordidis ac valde fungosis, &c.* Dr. Lind says he was out on a cruise of three months in the *Salisbury*, where the men neither tasted fresh provisions nor vegetables of any sort, where the beef and pork were (for a great part of the time) boiled in salt water; yet they returned into port without one scorbutical complaint. In the two following cruises (he continues) it raged on board that ship, and all the Channel squadron, after being less than six weeks at sea, and after, leaving *Plymouth*, where greens were to be had in plenty.

Day labourers live chiefly on salted bacon; they are remarkably strong and prolific. In many places, pump water is breakish; to strangers it is purgative, the vulgar use it, and are healthy. Those who foolishly abstain from bread, salt, pickles, and wine, all which contain an acid; and live on insipid nutriment, are subject to continual ailments, and are more liable to scurvy, costiveness, colds, rheumatisms, &c. than those who use these things in excess.

Salt is the balsam of life, not so useful on account of its taste, as to preserve the juices from putrefcency. For full conviction, I beg leave to refer to Fred. Hoffmanni, Tom. vi. p. 112, *Dissert. de salium morbosorum generatione in corpore humano.*

Gib: altar. In the garrison of *Gibraltar*, the soldiers live on salt provisions, just as the sailors on board. They have little other fresh than a *sardina* now and then. Greens are not so plenty as to fall every day to their lot. They are no more subject to the scurvy than other garrisons, and much healthier than that of *Minorca*. This, I think, may be imputed partly to the quantity of wine (the best of all *Antiseptics*) which they drink. For two pence, they buy a quart of *Black-strap*, or *Vino-Carlo*, an austere black wine of such strength, that one quart fuddles a man. This diluted with that quantity of excellent water which they swallow down at meals, renders the salt of the meat rather wholesome. Happy for the poor fellows, they have it not in their power to lay out more on wine; more were pernicious. The difference of exchange, with other taxes, prevents inebriation full as effectually as the *Cat and nine tails*.

Bilge-water. 3. Scurvies have been supposed to proceed from *bilge-water*. Carpenters have suffered from *bilge-water*; yet, though they are obliged to sleep near the well, and measure its depth every four hours, are they not particularly liable to scurvy. Nor is the air of the wide ocean more productive of disorders than that of sea-coasts. The scurvy prevailed among the ships which, during this last war, rode at anchor in *Quiberon-bay*, and among those ships which cruized on the French coast.

4. About

4. About the beginning of the sixteenth century (a period remarkable for the advancement of learning) we find many authors remarking that cold damp lodgings contributed greatly to the production of the scurvy, that its virulence was always increased by cold raw exhalations from wet damp walls, or floors. We find the scurvy more frequent in winter than in summer, in colder than in warmer climates. Extreme cold produces it in northern climates. Excessive rains produce it in warm climates. Moisture is the parent of corruption, and land moisture much more so than sea. *Moisture.*

He who reads *Walter's* account of those storms which the *Centurion* suffered, can hardly be surprised at that scorbutic havock which followed such natural causes. Terrible as this scene was, it is hardly to be compared to that catastrophe of the *Black-hole*, at *Calcutta*, nor to that mortality of the siege of *Tborn*, nor to that of the Imperial troops related by *Kramer*, nor to that *Malignant jail* or *hospital fever*, so similarly described by *Huxham* and *Pringle*.

FROM what has been said, we see that the powerful predisposing causes of *Scurvy* are only casual at sea; nor are their effects so terrible as at land. Infectious fevers have existed at sea, particularly on board of *Transports*. Such accidents cannot be adduced as objections to the *Use of Sea-voyages in Medicine*, because the necessitous rarely think of going to sea for health's sake. The same have happened in jails. *Inference.*

§. III. To put the argument beyond question, *Navy and* I am naturally led to a comparative survey of the *army compared.* *Navy and Army*, in point of *diet, medical appointment, health and sickness.*

*Britain
maritime.*

1. Nature has formed this island for a maritime power. Our wooden walls may truly be called our towers of defence. While our naval strength continues to be naturally exerted, we have little to dread from foreign armies, and almost as little use for those of our own. Providence has placed the balance of power in our hands. *Qui mare teneat, eum necesse est rerum poteri.*

Appeal.

2. This little work may, now and then, fall into the hands of men of humanity, as well as power. While I prove the superiority of *sea-air* and *exercise*, it were cruel to conceal those grievances under which sailors labour.

*Carthage
expedition.*

3. Last war the *Carthagene* expedition was indulged with one physician only; he died almost as soon as he reached the place of destination. Surgeons, by being exposed to infection, were the first swept off. For want of medical aid, thousands actually perished.

*German
Hospital.*

4. To the spirit and influence of his Royal Highness the Duke of Cumberland, the nation is, this day, indebted for that reformation which since led to glory. The German hospital resembles a little army. According to the exigence of our military preparations, such are our medical preparations. From the station of hospital-mate, men of merit rise to the office of purveyor, surgeon, physician, comptroller, and director. The service of a day secures the half-pay of five, fifteen, or twenty shillings. Hopes of ease and independence invite men of abilities. The army is provided with excellent physicians and surgeons. The sick and wounded are properly lodged, fed, and attended. The camp may be said to be the first school of instruction chiro-surgical and medical.

5. Was

5. Was a Chinese philosopher to examine the *Naval Diet* of the British navy, he would naturally conclude that Britain was a maritime power of yesterday only.—By the provision made for the medical department, he would as naturally conclude that the superintendants of the marine had, in all ages, considered sailors as a class of men exempt from disease; that broken bones were only to be placed to the public account; or, that (in proof of my text) sea-air and exercise superseded the use of medical assistance.

6. In southern climes, ships glide easily along; *Physicians* in time of peace, wounds, fractures, and accidents, rarely happen. In time of war, engagements fall not to the share of every ship. Moisture, cold, heat, foul air, rotten provisions, stinking water, and impressing are the natural parents of fevers, fluxes, rheumatisms, pleurisy, and numberless other disorders, which require the utmost exertion of medical skill.

Mere surgeons are unequal to the duty; their very institution is founded on ignorance, and subsists by error. In every other country physicians think it a disgrace to be ignorant of surgery, pharmacy, or any one science which concerns the human frame. Every ship of war ought to be provided with a master-surgeon, equally bred to physic and surgery.

7. On the breaking out of the last war, officers of all denominations crowded to the standard, and were rewarded. For Captains whose *Naval surgeons* names had only risen on the list, for the friendless, and even for brethren who had been rendered incapable, a new easy order was instituted. Boatswains, gunners, carpenters and cooks were laid softly down. Three hundred and fifty surgeons were then (and still are) unpensioned and *oppressed*.

unrewarded. Was it to be expected that these should quit connections of any sort for a service so fruitless? Those who wanted bread accepted of warrants. Those who had other prospects waited for an augmentation of the half-pay list. Wavering was construed mutiny. Little emoluments were curtailed, new severities imposed. Those who wavered quitted. Mates were prematurely converted into surgeons. Ships proceeded with half their complements of mates. While military hospitals were rationally indulged in necessaries of all sorts, to political ignorance, and unseasonable parsimony, thousands fell annual victims.—Thus, by the fairest computation, advantages of all sorts seem to be on the side of the *Army*. Whether land or sea service be the most healthy, we now proceed to inquire.

*Military
fatigues.*

8. Peace or war, the diet, air, regimen, and exercise of sailors is invariably the same.—In time of peace, as in winter-quarters, soldiers perish through inaction. Officers and men, young and old, hardy and delicate, sooner or later, all yield to heats, and colds, forced marches, hunger, watching, and unusual disasters. Dear have been our German connections! In climates hot and cold whole regiments have perished. Witness *Carthage*, *Belleisle*, *Senegal*, *Guardalupe*, *Havannah*, *Quebec*, &c. &c. &c.

*Sailors
healthy,
brave, and
unbinking*

While the army pines away on shore, the sailors are all alive on board. They rarely fall down, excepting when employed in assisting at sieges. Boats crews, men sent to sick quarters, and idlers, perish through sloth, indiscretion, and intemperance. In point of courage, the natives of the three kingdoms may be the same. In seamanship, our sailors surpass all others. Whenever foremastmen prove bashful, the influence

ence of example may shrewdly be suspected. Properly commanded, they scorn superiorities of all sorts, nor are they over-careful of his Majesty's ships. Confident of the valour of his crew, Tyrrel deliberately sought for danger. To thirteen hundred French he opposed four hundred Britons; nor was he disappointed. To the impetuosity of the *Buckingham's* crew, may the escape of the *Florissant* truly be imputed. English sailors are regardless of future exigencies; on the first mistress they lavish their money and cloaths. Irish sailors are turbulent and drunken. Is it an easy matter to cure those who contend with constitutions and climates? In storms the sick can neither be visited nor attended; foremast men sleep in hammocks drenched in water. Salt meat, rotten biscuit, and stinking water are the fare. Under the best circumstances, whole regiments perish in hospitals. Under the worst circumstances sailors are often saved. In sea-air and exercise, there is a certain *to θεσις* that counterbalances disadvantages of all sorts. Those who perish at sea (I can, with confidence, affirm it) perish chiefly through medical ignorance, want of fresh provisions, and other necessities.

Officers who sleep in cabbins, who have *Officers.* changes of raiment, stock of fresh provisions, and wines, rarely sicken and more rarely die. Scotch seamen are trained up to sobriety; their chests are crammed with jackets, trowsers, and shirts. It is notorious they are regular, orderly, and (what confirms the text) *healthy*. To general proofs we first proceed.

9. BRED to every branch of the healing art, *General* I thought myself rather too young to sit down *proq's.* and practice a profession estimated by solemnity and

and grimace. Possessed with a desire of visiting distant countries, I was happy enough to be favoured with the means of gratifying my curiosity, while I served my country. My first appointment was that of Surgeon to the *Norwich* ship of war. My first voyage was to the coast of *Africa*, and the *West Indies*. Sacred to the memory of the benevolent, facetious, honest Thomas Gregory, Commander, I think myself in gratitude bound to hang up a model of humanity. "His confidence was unbounded. While he strictly maintained naval discipline, to me he absolutely resigned the health of the crew. The decks were daily scraped, hammocks aired, awnings spread, and the ship, between decks, washed with vinegar, and purified with brimstone. The ports were barred in every night. By amusements, sports, and fiddles, the night-watch was constantly kept in motion. The day was spent in manning ship, or exercising great guns or small-arms. Stripes, without mercy, were the portion of those who connived at supplying them with spirits or salt meat. For their sake, he dropped anchor, fished, changed water, issued tobacco, and short-allowance money, for the purchase of fruits, fresh provisions, or greens; to spare his last fowl to the sick, he often spread his own table with salt pork. His wines, and all his other stores were at my command." What were the effects?

Many of the crew were landmen, many scorbutic, some consumptive, and, almost one third p——d. Our passage to *Gibraltar* was long and sickly. As we approached the tropic, every disease seemed to yield, particularly consumptions. We were often without one sick man on the list. Our crew arose to thirty above complement;

plement ; out of which, in six months stay on the coast, we buried only two, one of which fell a martyr to obstinacy and intemperance. In the *West Indies* we tarried two years and a half ; our ship was exposed to batteries, in two engagements. Of sick and wounded, in that time, we only buried (to the best of my remembrance) about thirty—Suppose 380 men, the most healthy, pent up in the compass of an old fifty-gun ship, at the foot of *Montpelier* ; suppose hard indigestible salt beef exchanged for *Soupe santé* ; rusty pork for Welsh mutton ; cask water for Bristol's salutary stream ; rotten unfermented biscuit for French rolls ; rancid butter for *Florence-oil*. Suppose these 380 attended by physicians the most regular, assisted by carriages, horses, and every implement of luxury, diet, and exercise ; could the degree of health be supposed greater, could the mortality be less ?

THE *Ruby* ship of war of 50 guns, succeeded, and tarried two months on the coast. I went on board, on purpose to inquire. She buried two men only.

Many ships of war were, to my knowlege, as healthy. In the same squadron, I have knowen some ships healthy, while others were sickly. These differences are not easily to be accounted for. On board the most sickly I have knowen the ablest and most diligent surgeons. On board the most healthy, I have knowen surgeons who hardly could distinguish one disease, or one symptom from another. There are sickly climates and seasons. Britain has known its *Sweating Sicknefs*, *Influenza del aere*, *Malignant Fevers*, *Small-pox*, &c. Without pretending to account for uncommon dispensations of Providence, we may reasonably impute the common causes

causes of unhealthiness at sea to ignorance, nastiness, and want of necessaries. In former days, Commanders took pleasure in contradicting their surgeons, in detaining the weakly and infectious on board. *Roderick Random's* humourous page has saved the life of many an honest tar. Our officers are now as humane as they are brave. From the year 1741 to 1746, I had the opportunity of satisfying my curiosity, while I visited the greatest part of the terraqueous globe. From experience I affirm, that (in fair-weather countries) medicines operate more certainly and more powerfully at sea, than at land. In every voyage the ship's crew was more healthy far than either Europeans, or Creols. Trips on board have, to my knowlege, saved the lives of not a few.—To particular diseases, and particular cures we now proceed.

C H A P.

CHAP. IV.

*Of Diseases adapted to SEA-AIR and EXERCISE;
with memorable Cures.*

I. Of CONSUMPTIONS.

OF these I have particularly treated in the *Diseases* preceding part. Some diseases are pecu- *peculiar to*
liar to a certain period of life, which, happily got *youth.*
over, there is, usually, little danger afterwards.
This holds particularly true of consumptions.
In families where consumptions have been fatal,
it may be prudent to pursue a sea-voyage by
way of precaution. Dr. Gilchrist directed it
with this view, and with the desired effect, as
appears by the cases annexed.

1. "A young gentleman tall, and inclining *Cases.*
"to be thin, with soft smooth skin, and lank
"hair, was seized with a spitting of blood,
"which returned often, and in considerable
"quantities. After the use of various reme-
"dies, I advised the sea. The voyage was
"about ten days. Coming home, the ship
"struggled with stormy weather for some
"weeks, in winter; she was stranded at last.
"In a low, foggy, maritime place, the patient
"tarried four months. Neither terror, fatigue,
"nor hardships, caused any return of his dis-
"ease. He remains, after years, fat, strong,
"and well."

2. "A young gentleman, whose mother and
"elder brother had both died of consumptions,
"lost his appetite wholly, his flesh, and strength.
"He had a dry husky cough, a fever with
"night sweats, a meagre countenance, and a
"high

“ high hectic flush. In short, he seemed to be
 “ following the fate of his brother, being of the
 “ same delicate complexion, temper, make, and
 “ near the same age. I thought it vain to go
 “ the same formal fruitless round which I had
 “ but just finished with the other. My only
 “ hopes consisted in some method that promised
 “ a speedy check to a disease that had already
 “ advanced fast. My hopes depended on a sea-
 “ voyage.

“ The first day’s sailing whetted his appetite,
 “ he ate heartily of the ship’s provisions. He
 “ coughed very little. He stood a boisterous
 “ passage of ten days as well as any man on
 “ board; nor was he so much as sick. Arriv-
 “ ing at Bristol, he found himself well; drank
 “ the waters, nevertheless, for three weeks. He
 “ was one month in his passage homeward, the
 “ weather foul all the time, in November. He
 “ was fat, hale, and strong, and has continued
 “ so. Nor is he under any apprehension of a
 “ relapse, the dangerous time of life being long
 “ ago past.”

3. A young gentleman whose father was of
 “ a lax phlegmatic habit, grew too fast. He
 “ was languid, slow, and unable to bear exer-
 “ cise. He had a vaporish kind of fever, with
 “ pains and soreness of the chest, costiveness,
 “ palpitation. His tongue was foul and moist,
 “ with little thirst, but great inappetency and
 “ languor. He made two or three short voy-
 “ ages with much advantage.”

4. “ A young man, by riding all day wet,
 “ took cold. In a little time, a severe dry fre-
 “ quent cough came on, with short breathing,
 “ fever, and a discharge of much watery phlegm
 “ after coughing. For six weeks every thing
 “ was tried, no ground was gained, a consump-
 “ tion

tion seemed fast to approach. I advised a sea-voyage. The ship had not proceeded far, till, by the shifting of the wind, they were obliged to come to an anchor in an open bay, exposed to the south, weather and season favourable. Here they rode twelve days. By this short air and exercise, the symptoms abated so much, that he laid aside his design of going to sea, and from this time recovered, and now continues, after years, perfectly well."

5. "During the last war, a gentleman was taken by the French, obliged to lay for nights on a cold wet deck, and afterwards thrust into prison. Here he contracted a violent cold, with cough, fever, and wasting. In his passage to *Jamaica* he recovered."

6. "A young gentleman, many years ago, after a violent pleurisy, from which he narrowly escaped, was now in equal danger from its consequences. The pain of the side continued, with hard cough, large expectoration, profuse sweats, and great wasting. He could not bear the least exercise; and, in this way, he continued for a twelve-month. By a voyage of five or six weeks, his cough ceased, his appetite increased, he recovered flesh, and strength; insomuch that he often pulled and hauled for his diversion. On his return, he found himself restored to health, and so continues, excepted that in frost, or easterly winds, he is subject to a cough, and straitness of breathing. He continues to take a trip once a year, always with visible benefit."

7. "A person of distinction, long emaciated, weak, wasted, with swelled legs, inclined to hectic, and consumptive, went through a long course of medicine with uncommon resolution,

tion, and in vain. Before the disease was half subdued, an epidemical dysentery lengthened the disease and course of medicine. In the depth of winter, weak, wasted, his legs much swelled, he beat about the channel in a storm of three weeks; during which he ate and drank heartily, whilst most of those on board were sick. Foul scabs, which hitherto could not be subdued, healed. By the time he reached *Lisbon*, a week more, he was almost quite recovered, and has now long enjoyed a state of vigorous health."

N. B. *In the preceding cases, the judicious Author remarks, That no other remedy was used. That some were not so much as sick, yet cured. That cures were effected, not only in the crude state of simple obstruction, but in purulence, ulceration, fever, inflammation, and spitting of blood. That, in cases where it cures not, it has procured a mitigation and suspension of symptoms.*

*Author's
Cases.*

8. To Gilchrist's cases I beg leave to add the following.—"Captain Meyer was troubled with pains in his breast, cough, difficulty of breathing, and night sweats. Bleeding gave momentary relief only. He was advised to Bristol, when the regiment in which he served was ordered on the expedition to the coast of France. He was very ill, and weak, when he embarked, and could hardly support the fatigue of duty while on shore. He was always best on board, though very sea-sick in the least bad weather. At the affair of *St. Cas*, he lost a great deal of blood, and was taken prisoner. There he remained four months. To this loss of blood, together with the French air, he imputes the total recovery of a consumption, in which sea-air and exercise had made great progress."

9. "Cap-

9. " Captain John Weller gives me leave to mention, That, in his infancy, he was so delicate, that he hardly could be reared. His father carried him out to the *Mediterranean sea*, on board his own ship of war, at the age of seven, where, by the assistance of a cow, sea-air, and exercise, he acquired a constitution that enabled him to do honour to the service during both wars."

10. " Part IV. I mentioned Lord Warkworth's cure of a consumption at the hot-wells. Relapsing soon after, and, being of a delicate texture by nature, I was happy enough to persuade him to confirm not only his cure, but his constitution also, by a voyage to *Naples*. His passage to *Gibraltar* was rather quicker than (in such circumstances) I could have wished. There he found himself much mended. By letters from *Villa-franca*, he acquaints his noble father, that he is ashamed to own that ever he had been ill. At *Constantinople*, one of the ambassador's servants actually died of the plague while he slept in the house. He was obliged to get out of bed, at midnight, and ride ten miles. He was seized with a fever which lasted fifteen days, and narrowly escaped. He had not been a week on board, before he was thoroughly recovered. By intermixing short voyages with his travels, I doubt not to see him return with a constitution able to support offices worthy of his singular virtues, and most illustrious birth."

11. Mr. Pollard, surgeon and apothecary of *Barbadoes*, delivered to me his own case as follows—" From repeated shocks, first of inflammatory fevers, then of the slow putrid, my juices were exalted to such a degree of alkali-

“lescent acrimony, that both secretions, and
 “excretions were most obnoxiously putrid, so
 “that my body was worn down to skin and
 “bone. Death was daily expected. In this
 “condition I embarked for England. The ef-
 “fects of sea-air and exercise were so visibly
 “apparent, that, before the ship had proceeded
 “half her voyage, I was more than restored to
 “my strength. In justice, however, to the
 “*Bristol-waters*, I am obliged to declare, that
 “they confirmed what the sea had begun.”

12. “Mr. Elder, an attorney of the same island,
 “assured me, that, by fever, colic, costiveness,
 “flatus, loss of appetite, nausea, and total de-
 “bility, he was reduced to such a state, that he
 “was obliged to seek health by going to sea.
 “When he loathed food at home, he was no
 “sooner returned from a trip of a few hours, in
 “a boat, than he could eat up a chicken. In
 “June last, he embarked, together with the
 “former. His appetite was restored in a few
 “days. Before the ship reached *Dover*, he was
 “so well, that he was almost ashamed to be seen
 “among the invalids at the Hot-wells.”

13. “In the year 1755, Lieut. Charles Hey-
 “lin, of the English Fuzileers, set out for *Gi-*
 “*braltar*, in a very weak condition, from a
 “rheumatism. Before he reached that garri-
 “son, he recovered. Next year he relapsed,
 “and was so reduced, that he was forced home
 “for the sake of his health. Before the ship
 “had reached Lisbon he recovered.”

14. “Captain Dobbs of the same regiment,
 “from the fatigues of a military life in Ameri-
 “ca, contracted a violent rheumatism, of which
 “he recovered in his passage homeward. Soon
 “after he joined his regiment at *Gibraltar*,
 “where he relapsed, so that he was obliged to

“come

" come home. Before he arrived he was always recovered."

15. " Lieutenant William Dalton, of Talbot's regiment, was stationed at an out-fort up the river *Senegal*, where almost every body died. When he embarked for England he was reduced to the greatest extremity. Every hour he found sensible amendment, is now recovered, and since married."

16. " In the year 1754, captain Le-Mat was recommended to his native air, as the *dernier resort*, in a consumption. After ten months stay, he rather waxed worse. March 1755, he joined his regiment in a miserable condition. In his voyage from Dublin to Liverpool, a space of sixty hours, he vomited and purged violently all the while. After his landing he accompanied the regiment in a march of 150 miles, his appetite increased, his strength returned, in a very short while he was restored to perfect health, without the help of one medicine."

17. " Lieutenant Norton Ivers came to Bristol-hot-wells consumptive, where he received little benefit. Receiving an order to join his regiment, he appeared in so bad a condition, that the commanding officer intreated him to return to the wells. Begging to be excused, he embarked on board a transport, on the *Rockfort expedition*. He recovered every day, so that, in the space of six weeks, he returned to Portsmouth perfectly recovered. This gentleman distinguished himself afterwards at the reduction of *Belleisle*, where he received great reputation, and a painful wound, for which he now drinks the hot-well-waters."

18. " When lieutenant general Kingsley was named for the command of the winter ex-

“ pediton to *Belleisle*, he was hardly recovered
 “ of a fever, and embarked with blisters on
 “ his back. He lay on board at anchor, at
 “ *Spithead* for a month. The very first night,
 “ his fever intermitted. By the help of the
 “ *Bark*, sea-air, and sea-exercise, he returned
 “ to London perfectly recovered.”

II. Of SPITTING of BLOOD.

*Spitting of
 blood.*

IN *Haemoptocs*, sea-voyages are suspected by men who argue from hypothesis only. In this disease, the chief danger arises not from the simple rupture of the vessels; nor does blood-spitting always arise from this cause; for, in this formidable appearance, vomits have been successfully advised. “ From my own experience
 “ in this case, I have no doubt of the safety or
 “ the benefit,” says Gilchrist, p. 78.

Sailing is here directed after the flux is stopped, and the disease becomes chronical. Pliny Hist. Nat. lib. xxxi. c. 6. tells us, that Anneus Galleo sailed for the cure of a consumption, as did Zozimus, freed-man to Pliny the younger. *Præterea est alius usus multiplex aquae marinae, principalis vero navigandi phthisi affectis, aut sanguinem egerentibus, sicut proxime Anneum Galleonem fecisse post consulatum meminimus. Neque enim Ægyptus propter se petitur, sed propter longinquitatem navigandi.—Frangeret me tamen infirmitas* (says Pliny, Epist. xix. Lib. v.) *liberti mei Zozimi,—nam, ante aliquot annos, dum intente instanterque pronunciat, sanguinem rejecit, atque ab id in Ægyptum missus, post longam navigationem confirmatus, nuper rediit.*—Celsus advises living in maritime places in winter for this complaint, Lib. iv. c. 4. §. v.

Dr.

Dr. Gilchrist (in his *Use of sea-voyages, &c.*) gives us the following proofs of the power of sea-air and exercise.

1. "A young gentlewoman of a delicate florid complexion, fell into a consumption, of which her mother, brother, and sister, had before died. For some months, she had a troublesome night-cough, sweating, spitting of blood, suppuratory fever every two or three weeks, and a large discharge of pus, with a pain in the left side of her breast. *Casts.*

"By the use of remedies she mended; but, not amused by flattering appearances of an insidious distemper, I advised her to go to sea. Here she recovered flesh and looks, none of her complaints remained, but a small degree of hoarseness. I could not persuade her to go to sea again, saying, she was well. She passed the winter much better than the former. In spring, a fever, then epidemical, seized her, which she got over; but, from this time, became wholly consumptive, languished, and died."

2. "A strong labouring man was (from a weight falling on his breast) taken with a spitting of blood, to the quantity, sometimes, of a pound or two. He had frequent suppurations, and discharges of pus, by which he was greatly emaciated. Under a stricter regimen than usual, he made two or three trips to sea in summer. He had no returns of his hæmoptoe; when I saw him in October, he had a hale look, no remains of fever, he walked about freely, a little cough only remained. In winter he was obliged to ride to a good distance, in great haste, and bad weather. A new suppuration came on. Under large pu-

“ rulent spitting, constant fever, and sweating,
 “ he wasted fast, and died.”

3. “ A gentleman, by the kick of a horse on
 “ the breast, fell into a spitting of blood, attend-
 “ ed with large purulent sanious discharges,
 “ mixed with pieces of membranes, a sense of
 “ weight, and internal soreness. Thus he con-
 “ tinued wasting and languishing several years.
 “ After coughing up large pieces of membranes,
 “ the discharge ceased for some weeks. I ad-
 “ vised him, notwithstanding, to go to sea. He
 “ was absent only a few weeks, eighteen days
 “ of which he had been at sea. He returned
 “ plump and ruddy, and walked miles without
 “ being fatigued.”

III. Of ASTHMA.

Asthma.

Cases.

SEA-AIR is seldom purposely prescribed, and yet, by its deterging nature, and by the nausea which it creates, it promises not a little. Caelius Aurel. (cap. de Asthmate) says, 1. “ A patient ill of an asthma, tending to consumption, having used many remedies in vain, went to *Neptunum*. While he lives there, and breathes the sea-air, he finds himself almost well. But, if he removes only to the neighbouring country, he is presently seized with his asthma, and other symptoms, and so continues, until he visits *Neptunum* again.” *Utilis denique maritima, et plurima mare tenus conversatio.—In longis, et difficilibus morbis mutandus aer,* says Baglivi, *De fibra matrice, et morboſa,* cap. xi.

2. “ From the hardships of a military life, Captain Sutton, of Cornwallis’s regiment of foot, was afflicted with a violent cold, which terminated in an asthma. His attacks were
 “ severe,

“ severe, and lasting, his strength much impaired. Bristol waters, at first, availed. Hues, bleedings, and expectorants were, by three of us, all tried to very little purpose. I persuaded him to change the air. At London, he received great benefit from Dr. Lucas’s prescriptions, antimonial, as he himself supposes, nay, even almost to a cure. On every slight cold, he was, nevertheless, subject to severe returns. In one of which he set out for *Portsmouth* to embark for *Belleisle*. Fatigued with the journey, he threw up blood, and could not stir out of bed. By the help of a blister, &c. he recovered so much that he could bear to be hoisted into the ship, and that with difficulty.

“ The very first night he slept sound. During the short passage of four days, he ate heartily, and was in as good spirits as any man on board. Had the voyage lasted longer, he verily believes he must have been quite cured; for, even in that very short space, instead of attacks of hours, he was only oppressed for about half an hour before he got up; he spat up the phlegm without cough. He mounted guard in the trenches, the very night on which he landed, and continued free of his asthma for two months. He now complains only on return of bad weather, and catching cold. He is, on the whole, so surprisingly mended, that I verily believe a sea-voyage and change of climate would confirm what medical art cannot.”

IV. Of DRY BELLY-ACH, DROPSY, and
ULCERS.*Atrophy.**Colics.*

1. In *Atrophies*, as well as *cachexies*, sailing has answered. In that nervous atrophy which follows the *Dry Belly-ach*, or *Colica Piſtonum*, so frequent in the Indies, sailing is the common remedy. New-york is the *Anticyra* of the *Jamaicans*, Bermudas of the *Caribaeans*, and Madras of the *Bengalians*.

“ On the abatement of the symptoms (says Dr. Towne, of the bilious colic) Sydenham justly recommends *Riding*, as prevailing means to prevent relapse. I have frequently experienced the good effect. But there is another exercise which I have observed to be more speedy, lasting and effectual, i. e. being carried round the island in a sloop, which few need want at Barbadoes. I have seen people reduced to the most calamitous appearance, upon the verge of the grave from a continued colic, in a weeks time, recruited beyond expression, by sailing, when they were incapable of undergoing any kind of carriage.”

Dropsy.

2. Caelius Aurelianus (Cap. de Hydrope) seems to lay great stress on that revulsion of vomiting in a dropsy. *Perfecta humorum detractio, aegrotantes praeterea navicula exerceri hortamur.* — Dr. Ross of London was once tapped for a dropsy; his belly filled again. By a spontaneous vomiting he was cured. — “ In a beginning dropsy nothing conduceth more toward a recovery than exercise and change of air; no kind of exercise more than sailing, no air more than sea-air,” says the same Towne, in his account of the diseases of the West Indies.

3. The

3. The following case not only gives the preference of sea-air and exercise to all other remedies, but puts their power beyond conception, as well as question.—“ Miss Barbara

“ Kennedy, of *Newcastle*, young, strong, and healthy, by accident, received a contusion on her hip, which, by neglect, formed an ulcer. She was under the hands of surgeons for twelve months, and upwards. Every dressing discharged matter to a considerable quantity. Sinus’s ran between the interstices of the muscles, up and down, forward and backward, deep enough to bury the probe. Introsusception of matter produced a putrid hectic fever with purging, hectic, atrophy, &c. In this condition, it was resolved to transport her to London, for the benefit of surgical aid. As she could bear no carriage whatsoever, she was put on board of a collier. The very first night, she found amendment, slept better, and began to recover her appetite. In a few days, she gathered strength, and sat on deck. The passage was stormy, and lasted fourteen days, at the expiration of which, hectic, sweating, atrophy, loss of appetite, and every symptom vanished. What, above all, seems incredible; without one dressing, the sinus’s all healed up, and the wound was firmly cicatrized. Twelve months after I saw her in perfect health.”

4. While I was preparing these materials for the press, I received the following letter from a physician of *Limerick*, which, while it confirms my doctrine, proclaims the sagacity of the author.

“ S I R,

“SIR,

Phthisis.

“AS you seemed to think those hints which I offered, in private conversation, worthy of a place in your book, I freely give you leave to make what use you please of the following instances. — While the regiment, of which I once was surgeon, lay at *Gibraltar*, Lieutenant —, aged 34, thin, lively, and devoted to a chearful bottle, was seized with a cough, heat, quick pulse, loss of appetite, and dejection of spirits. He was often bled, purged, took balsamics, &c. His disorder, notwithstanding, made rapid progress, he wasted to a skeleton, he became truly phthisical, to such a degree, that, in my opinion, nothing could have saved him, had he remained in the garrison.

“In June 1749, he embarked, on board of a transport, for *Ireland*. In two or three days, his appetite returned, and improved so fast, that he could not be restrained from partaking, indiscriminately, of every thing that came to the table. After a passage of twenty days only, he landed at *Corke*, danced the very first night, without any sense of fatigue, and continued to enjoy a tolerable share of health for near a year, when returning to his old jovial way of life, he relapsed, and died tabid.”

Hepatitis.

5. “ — Bayley, a drummer, strong, athletic, and young, was, at *Gibraltar*, taken with a *Hepatitis*. In spite of the common methods seasonably administered, he continued in a languid way, with purulent stools, pain about the region of the liver, became hectic, and

“ was carried on board in a desperate condition.
“ The first two days he seemed barely animat-
“ ed. From the third he mended sensibly.
“ About the eleventh, he got upon deck. On
“ the twenty-first he landed, carrying his own
“ knapsack, did duty till the year, 1754, when
“ he was draughted to go abroad.”

6. “ Early in the year 1755, there were se-
“ veral men of the ninth regiment, who, from
“ repeated colds, had contracted pulmonary dis-
“ orders; and, perhaps, for half the year, were
“ unfit for service; some were in confirmed
“ consumptions, and, therefore, stood on the
“ list to be discharged as invalids. At this
“ time, the regiment was ordered to England;
“ eight officers and two hundred men embark-
“ ed on board Boscawen’s fleet for *North Ame-*
“ *rica*, from which they returned in health and
“ vigor; bore a long march from *Portsmouth*
“ to *Scotland*, in the middle of winter; some of
“ them worked on the roads; and, in spring,
“ 1757, marched from the Highlands, by the
“ way of *Port Patrick* and *Carrick-fergus*, to
“ *Limerick*, where they remained for a whole
“ year, without any return of their old com-
“ plaints; from thence they afterwards pro-
“ ceeded to *Belleisle*, and *Havannah*, where they
“ did honour to their corps.—Wishing you the
“ just recompence of your most laudable under-
“ taking, and fully convinced of the utility of
“ sea-voyages in medicine, I am, most sincerely,

“ Yours,

Feb. 9, 1763.

“ ALEX. SHEARER.”

P A R T.

P A R T VI.

O F

LOCAL REMEDIES.

W I T H

M E M O R A B L E C U R E S.

§. I. **I**N the first part of this work, I have endeavoured to restore the use of *Waters*. In the fifth, I have attempted the revival of *Sea-voyages*. From experience I have learned, that waters cure some diseases, that sea-voyages cure others, that waters and sea-voyages mutually co-operate. From experience I have also learned, that, where medicine, waters, and sea-voyages, have proved ineffectual, there are other remedies which rescue patients from the grave. As in the doctrines of waters, and sea-voyages we have degenerated from the antients, so have we in that of *Topical Remedies*. Every surgeon knows how to cut issues; there are, perhaps, few physicians who can rationally account for their *modus operandi*. Farriers perform cures which we want courage to imitate. In his academical prelections, Boerhaave was wont to confess that he often associated with

Farriers,

Farriers to learn their experiments. "Cum *verinariis* saepe versabar, ut viderem eorum experimenta, et patuit mihi quod boves et equi crudelibus et fere semper externis remediis curari debent." A horse, e. g. falls off his meat, pines, and is unfit for his daily labour. The horse doctor cuts a hole through the skin, into which he stuffs a piece of *black belebore*, and covers it over with plaister. The animal begins to breathe short, and appears restless, a bump arises, ichor issues forth, the body undergoes a thorough change; perfect health returns. Ask the farrier how this change comes about, he is as much puzzled, and often no more than regulars in other cases. One cure naturally leads him to another; what has he to do with causes, provided he can gain experience by effects? Boerhaave, as we have seen, says, *patuit mihi quod boves et equi fere semper externis remediis curari debent*. This *semper* may, perhaps, with equal propriety be applied to the human frame.—In his experiments on the *serum*, Dr. Pringle seems to have rationally accounted for the *modus operandi* of *Issues*. Experiment XLV. he expresses himself thus. "I have already observed that the serum of human blood, upon standing but a little time in the furnace (long before it grows offensive) becomes turbid, and gradually drops a sediment resembling well digested matter. This serum never changed its colour, or mixed again with the serum."

"From which circumstances I conjecture that it is a terrestrial matter intended for the reparation of the solids. I was the more confirmed in this opinion, upon discovering a like sediment in the urine of men in perfect health."

"We

OF LOCAL REMEDIES.

“ We may therefore conclude, that the serum is perpetually oozing into all ulcers; but that from the heat of the part, and the natural volatility of human fluids, it is all quickly evaporated, excepting this sediment which continues in the sore in the form of pus, or digested matter so requisite for the cure. For this reason, all large ulcers are extremely weakening, from the great expence of blood furnishing this substance. Hence it is that *Issues* are of more consequence in making drains than one would expect from the visible evacuation. As near as I could guess, an ounce of *serum*, after standing some days, did not furnish more of this matter, than what might be produced in the daily discharge of a large *Pea Issue*, or from a *Seton*.”

Drains,
their general effects.

Stupendous, in all ages have been the effects of local applications! By blisters, *issues*, *setons*, *cauteries*, *searings*, *firings*, and *drains* of various sorts, thousands have been saved, who otherwise must have perished. To ignorance, and indolence thousands fall annual victims. *Vita brevis, ars longa, occasio celeris, experimentum periculosum, judicium difficile.*

In fixed pains, inflammations, plethora's, and ruptures of the vessels, drains, lessen the impulse of the humors, and make a derivation from the parts affected.

In cases where large and sudden evacuations dare not be pursued, drains diminish the quantity without impairing the strength. Drains divert rheums which terminate in consumptions. In bodies wasted by scorbutic atrophy, they carry off that acrimony which vitiates the fluids. They plump up emaciated limbs. In very few cases, they do hurt. When they fail, they may truly be said to have been injudiciously advised. Those

who

who know how to sport with the skin may truly be said to save constitutions as well as the pockets.

Helmont explodes the use of *setons*; he calls them *crudelis carnificina Galenica*. Zecchius; Sennertus, and some others their implicit followers, condemn the use of the *actual cautery*. But, with submission to such theorists, I hope to be able to prove that topical applications of all sorts perform cures which disgrace common practice. To facts I appeal.

§. II. THE Egyptians never looked upon *Actual* palsies as desperate, before they had tried *in-cautery*.
ustions.

Seet. VIII. Aphor. 6. Hippocrates expresses himself thus, *What medicine cannot cure, let iron cure; what iron cannot cure, let fire cure; what fire cannot cure, is incurable.*

Areteus Cappadox recommends the application of the actual cautery on the head, *Lib. 1. De cura chronicor. cap. 4. de Epilepsia.*

Lib. 7. cap. 7. § 15. Celsus recommends the *Eyes*. actual cautery, *in oculorum pituita*. There he mentions the places on which the iron is to be applied, particularly where the *sagittal* and *coronal* futures intersect one another.

“Mirum est, ait *Epiphanius*, quam his cau-
“teriis refrigeretur cerebrum; et licet, pri-
“mis diebus, soleant excitare aliquem gradum
“caloris, tamen majus est inde emolumentum.
“Nos quoque quinque, quandoque septem
“cauteria amentibus admovemus, qui curati
“fuere. Est et e novissimis *Caesar Mocha* prin-
“cipum subalpinorum medicus qui consil. 140,
“feminam inde restitutam testatur, septem jam
“menses insanientem.”

Hist.

Idiotism.

Hist. medicinal 47, Fernandez says, "Festor
 " Deum cauteriis, in capite, quandoque tri-
 " bus, quandoque quatuor, et quinque factis,
 " ad loca futurarum curasse annis elapsis focrum
 " *Magistri Gentilis*, cui jam erat memoria aboli-
 " ta, et duos alios stolidos et insanientes."

Head-ach.

J. Heurnius, professor of physic at *Leyden*, in
 the year 1575, mentions a cure of an inveterate
 head-ach performed, by the actual cautery, on
 a surgeon of *Utrecht*.

Hier. Fabr. ab aquapendente devised a par-
 ticular sort of cautery for making of fontanels,
 on the coronal future, which is to be seen, in
 his works, as well as in those of Scultetus, who
 commends it.

Hollerius (in the scholium to his first chap-
 ter of *internal Diseases*) orders the actual caute-
 ry to be applied in the middle part of the head,
 near the futures. Duretus, in his commenta-
 ry on this text, recommends the red hot iron
 also.

Fallopious (De cauteriis pag. 340, says, *capiti
 cauterium tute imponere possumus*.

Maniacs.

Riverius (Cap. de Mania pag. 227) says
 "Cauterium futurae coronali adplicatum maxi-
 " me probatur a Gordonio, ejusque utilitatem
 " confirmat historia cujusdam maniaci, cui cum
 " esset vulnus slictum capiti, cum cranii fractu-
 " ra, quamdiu vulnus apertum, tandiu bene
 " habuit, vulnere curato reversa est mania."

—*Cap. de dolor. cap. pag. 236*, he continues,
 "Cauterium futurae coronali admotum dolo-
 " rem capitis contumacem aliquando radicitus
 " abstulit."—*Observation. cent. 2. No. 39.* he

Epilepsy.

adds, "Ad puerum epilepticum vocatus pre-
 " scribo apozema ex cephalicis et epilepsiae spe-
 " cificis, cum purgantibus, ad quatuor doses.
 " Deinde inuritur causticum futurae coronali.

" His

"His remediis a morbo liberatus."—"Multo majoris est efficaciae, he adds, si temporibus admoveatur, de qua vide *Poterium Obs. cent. 3. cap. 8.*"

Lambswerde *Tom. 2. Scalteti Observ. 9.* says *Venereal* he cured a venereal head-ach, by applying the *head-ach.* actual cautery, on the coronal suture. *Obs. 2;* he cured an epileptic by cutting the teguments *Epilepsy* first transversely, and then applying the actual cautery on that point where the coronal and sagittal futures intersect each other, *satis profunde inurendo.*

Nuckius (*Operat. et Exper. chir. No. 1.*) recommends the operation, in these words, "facili negotio operatio haec sequenti instituitur modo. Inuratur loco modo notato (per fila in medio capita se decussantia) profundum satis foramen cauterio quodam actuali."

Fred. Deckers (*Exercit. pract. pag. 109.*) re-*Blindness.* lates the history of a blind woman, on whom a surgeon burned three cauteries, even into the diploe, and restored her to her sight. He also affirms that he saw a *gutta serena*, and an *epilepsy* cured by the same method.

Tom. 4. Part. 4. med. Syst. Rat. pag. 118. De Amaurosi, Hoffman says, "Magnum profecto praesidium est in cauterio actuali, syncipiti vel nuchae inusto."

Purmann, a famous surgeon of *Breslaw* (in *Observationibus curios. in victissim. Imp. Jose-* *Epilepsy* pho dicatis) relates the history of a girl whom he cured of an inveterate *epilepsy* by applying the actual cautery on that point where the coronal and sagittal futures intersect each other.

In his book *De efficaci medicina pyrotech. lib. 2. p. 1.* Severinus has transmitted the testimonies of forty eminent physicians and surgeons, in favour of the *actual cautery*, *Paulus Aegineta,*

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H

Actius,

Actius, Aetnarius, Mesue, Rhafis, Albucasis, Arnoldus Villa-nova, Andraeas Caesalpinus, Petrus Salius, Paraeus, Theodoricus, Rondeletius, L. Mercatus, Lanfrancus, J. Sylvius, N. Pifo, Macha, &c. Severinus was a great stickler for this operation. Heister recommends it also.

Of those who persuade the use of the actual cautery, some have produced histories of cures; some advise the opening the integuments first, and then burning the bone. Others advise the burning of the integuments together with the bone. Every one mentions his successes; every one has concealed his ill successes; nay, some positively aver that the operation is void of danger. True to the cause of truth, Professor *De Haen* shrewdly observes, that the causes of headaches, epilepsies, and blindness exist not always within the cranium, and therefore cannot always be expected to be cured. As, as on dissection, he found (in one case) both meninges violently inflamed, with a collection of matter, he proposes to substitute the *trepán*, another local remedy in the room of the actual cautery. See his *Ratio Medendi, Cap. xii. de Cranii uestione in pertinacioribus capitis vitiis.*

Potential
cauteries.

2. POTENTIAL CAUTERIES are medicines which consume like hot irons. Whence the Greeks gave them the name of *caustics*. Celsus calls them *exedentia et adurentia*. Potential cauteries differ in strength according to their different preparations. The most effectual is the *Lapis infernalis* prepared *e calc. viv. et cinerib. clavellat.* Some prefer *lunar caustic*, or caustic prepared from calcination of *soap-boilers lees*, or *ol. vitriol.* or a solution of *mercury in aq. fort. butter of antimony*, and a mixture of *soap and quicklime*; or, lastly, an *arsenical*, or *mercurial sublimate mixed with honey.*

3. HIP-

3. HIPPOCRATES, Celsus, and other antient *Moxa* physicians, used to burn *flax* on the part affected, particularly in the gout. Some moderns wonderfully extol cauterization with *Moxa*, a downy substance separated from the leaves of *Indian Mugwort*. Among the Chinese and Japanese, this and *Acupuncturation* seem to be their chief remedies. These cauterizations are also said to be in use among the Arabians. A small cone of the lint, or *moxa*, was stuck on the part affected; this was fired with a candle. The cone not only gradually consumes, but the part affected becomes cauterized; and thus the gouty pain comes to intermit. This practice is, at present, disused in Europe. More may be learned from *Rhynius de Artbritide*, pag. 145. *Cleynis in Medicina Sinica*. *Purmannus Chirurg. Pars III*, pag. 292. *Valentini Polychrest. exot.* pag. 197. *Kemper's Amaenitat. exot.* pag. 589, and in his *Histor. Nat. Japan*.

4. BLISTERING is an elevation of the cuticle *Blistering*, from the cutis by the application of external remedies, particularly *Cantharides*. The cuticle is removed, and the sore is dressed twice a day till it heals up.

When sudden revulsions are to be made from the brain, lungs, bowels, or any part on which life immediately depends, blisters are divine remedies. When vicious humors are to be discharged from the blood, blisters are indicated. In lax cold constitutions, issues made by blistering answer. In lethargic paralytic affections, they give a stimulus to the solids and fluids. In inveterate arthritic, or rheumatic complaints, blisters applied to the part are of signal service, as we learn from *Scultetus's observation* 73, and from experience. In wounds, particularly after the operation of *Lithotomy*, where the lips become

become callous, cantharides destroy the callosity, the wound heals kindly, as we learn from *Cbeselden* and *Douglas*.—Blisters are cautiously to be applied to hydropics, or cachectics, as we learn from *Baglivi*, *Hoffman*, *Vater*, *Heister*, and others.—In hectic heats, they exasperate the fever, as, from experience, I have learned.

Sinapisms. 5. SINAPISMS act as blisters, and produce wonderful effects as revellents. The *ranunculus aquaticus* applied to the skin brings on a gangrene, even in half an hour. It raises such concussions, and heat, that it prevents the cold fit of an intermittent. The *clematitis bor-tensis* burns to a coal. From the common ingredients of sinapisms, *horse radish*, *mustard*, &c thick applied, I have seen deep ulcers produced.

Cupping. 6. CUPPING was an operation as much practised by the antients, as by the moderns neglected, as we learn from the works of *Hippocrates*, *Cellius*, *Galen*, &c. In *dry-cupping*, the glass is pressed to the skin by the force of the external air, while the internal is rarified by heat. Dry-cupping is used for *derivation*, or *revulsion*. Hence it is that Hippocrates orders a large cupping glass to be applied under the breasts of women labouring of too profuse a discharge of the *menfes*, *Sett. V. Aphor. 50.*—*Scultetus* gives a remarkable instance (obs. 85.) of a woman who, by repeated applications of cupping-glasses to her thighs, was cured of an obstinate obstruction.—In profuse haemorrhages from the nostrils, and lungs, *Heister* informs us that he applied dry cupping glasses to the legs, and thighs, particularly the ankles, and knees, and with success. For the removal of pains, vertigo's, and other disorders of the head, he recommends cupping glasses to

to the temples, behind the ears, neck, and shoulders. *Heister's surgery*, pag. 329.—In palsies, sciatica's, and other pains of the joints, Celsus applied cupping glasses, *Lib. IV. cap. 2.* The operation is to be repeated till the part begins to look red, and becomes painful, *See Decker's exercit. p. 34.*

Cupping is most commonly joined with *Scarification*, in which case, the part is first to be dry-cupped till it swells, and look red; the skin is then to be struck with the scarificator. The operation is to be repeated till sufficient quantity of blood is obtained. Cupping with scarification is used in various parts of the body for derivation, evacuation, or revulsion, and produces wonders. In *Apoplexies*, and other soporous affections, Morgagni advises deep scarifications on the occiput.—In *Optthalmia's*, and *pleurifies*, Lancisi recommends cupping with scarification. *See Jo. Tac. Mann. of Padua treatise, published A. 1583. Morgagni's Adversaria Anatom. V. pag. 83. and VI. pag. 108.* Under this head we may mention the infliction of small wounds within side the nose, lips, ears, eyelids, and gums used by the Aegyptians, and recommended by Celsus and Aretaeus, for abating inflammations, and relieving various disorders. *See Clof. Lib. IV. cap. 2. Aret. de chron. morb. Lib. II. cap. II. de cephalaea pag. 128.*—Under this head also we mention the practice of *Bleeding by Leeches*, successfully used by the anti-*Leeches.* ents, as we learn from Galen's professed dissertation on the *Sanguisuga*, commented by Sebezius. Aldrovandus, Gesnerus, Botallus, Petr. Paul. Magnus, Heunius, Cransius, Schraderus, and Stahl, have given us lights which we wilfully hide under a bushel.

*Issues and
setons.*

7. Of all local remedies, or external applications, *Issues* and *Setons* are the most common, safe, and perhaps most efficacious.

Issues are little artificial holes by which we imitate nature in discharging peccant humors. The parts in which issues are commonly inflicted, are 1. the upper part of the head, 2. the neck, 3. the arms, between the biceps and deltoid muscles, near the insertion of the last, 4. in the thighs, and lastly in a cavity immediately below the knee. Of the different methods of making issues, the best, and simplest is that by incision.

§. II. WHERE large and sudden drains are indicated, *Setons* are preferable to *issues*. By the use of issues and setons, thousands might be saved whom modern indolence pronounces incurable. To proofs general and particular we proceed. See *Galvani Trattato delle Fontanelle. Glandorpil Gazophylacium, &c. Aët. Hafnienf. Vol. III. XII. Mysii Prax. Med. Obs. 2. Schelhammerus, Fred. Hoffman, Hilscher, &c. in Dissertationibus. In Cataractis*, Sorbait, professor at Vienna, used to recommend setons. Wonderful effects of setons may be seen in Hildanus and Pareus.—Ruysch also gives a memorable instance of the effects of a seton in a head-ach. “A merchant’s daughter of *Amsterdam* had long laboured of a continual head-ach. Various remedies had been tried, and in vain. A seton was put in the neck, the pain immediately vanished. Tired with the cure, she extracted the cord; the head-ach returned a third time. The same operation was again performed, not only with success, but she began to live freely, *pancreateice*.”—In his *Academical Prelections*, Professor Munro annually

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nally recommends the practice of issues, or sections, particularly in *cancers*; observing that they commonly returned, unless the middle part of the amputated part was kept open with a pea, which generally answered. To recent facts we now appeal.

1. "Mr. Giffard of *Rushal*, in the county of *Wilts*, laboured of a fever and delirium occasioned by the injudicious stoppage of a *cholera morbus*. I ordered *Sinapisms* to his soles, which, by being laid on too thick, and too large, created deep ulcers with black sloughs. His delirium was quickly removed. The discharges of these ulcers contributed not a little to the cure of the flux." Many such might be produced.

2. "Captain Craig received a musket shot in an engagement with the *Belleisle* privateer, which penetrated the thorax, and ruptured the vessels of the lungs. He had thrown up large quantities of blood at different times; he had attended the *Hot-wells* for two seasons, where he received great benefit. When he consulted me, the discharge was not above a tea-spoonful, and that after unwarrantable exercise, or other abuses of the non-naturals. His greatest complaint was a head-ach almost continual, for which I advised a couple of *Issues* between the scapulae, which cured his head-ach, and did him otherwise considerable service."

3. "In a haemoptoe, Mr. Jones of London, Sadler, received cure by drinking the waters, nitre, and an issue."

4 "Master Ambrose came to the Wells for a cough, and inflammation of the lungs. By obstinate perseverance in *Asses-milk*, a diarrhaea was brought on, which reduced him to the

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“greatest degree of weakness. Absorbents
 “and astringents ran through him quickly.
 “In a consultation with two physicians, I pro-
 “posed an issue. Both declared that they
 “thought his condition so desperate that nei-
 “ther that nor any thing else could restore
 “him. The issue was however agreed to, and
 “cut in his arm. At first, by reason of the
 “poorness of his juices, it hardly discharged at
 “all; it was much neglected. In spite of in-
 “dulgence and errors continual in point of re-
 “gimen, he recovered. To the issue only may
 “the strength of his bowels be imputed; for
 “the medicines first prescribed profited but lit-
 “tle, and those prescribed after the cutting of
 “the issue were of the same kind, as appears
 “by the apothecary’s file now before me.

5. “Henry Hill of *Marlborough*, of a fair
 “complexion, and delicate frame, had long
 “been subject to hectic heats, sweating, and
 “very large discharges of purulent matter from
 “abscesses in his lungs. As he knew the symp-
 “toms harbingers of these discharges, he ap-
 “plied to me at a time when these were com-
 “ing on. He had taken pectorals of all sorts,
 “to little purpose; he had lived very tempe-
 “rately. I advised a *seton* between the ribs,
 “just above the insertion of the diaphragm,
 “near the part affected. His pain and other
 “symptoms vanished, he never had another dis-
 “charge. He has enjoyed perfect health for
 “these fourteen years, without a taste of Bristol-
 “waters. His constitution is so much improved
 “that he easily undergoes the greatest exercise
 “and fatigue. He had such faith in his cure
 “that as soon as the cord cut through the skin,
 “he had another cut, and so continued for
 “years.

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6. " P. Brugier, a working silver-smith of
 " *Covent-Garden*, about eight or nine years ago,
 " was almost suffocated one day with an ab-
 " sence of a vile stench which he threw up
 " by vomiting. Sweatings, weakness, and cough
 " soon succeeded. He was under the late Dr
 " Schomberg's hands for some months. By
 " his advice, he retired to the country, all to
 " little purpose. He consulted *Ward*, who (by
 " *Pills*) took off the sweats, but could not
 " stop the blood which he spat up in con-
 " siderable quantities, at different times. Af-
 " ter eighteen months, he came to Bristol, where
 " he drank the water for a very short time on-
 " ly. He had a *seton* cut in the side affected.
 " After two months, all his symptoms vanish-
 " ed. He returned to his labour, enjoyed per-
 " fect health for seven years, drinking the Bri-
 " stol water in town, and continuing the *seton*.

" Last year, by catching cold, his foul spit-
 " ting returned with fever and sweatings. He
 " returned to the *Wells*, but not in so bad a
 " condition as formerly. I advised him to go
 " on with the waters with a milk diet. His
 " seton had not discharged for some time, I or-
 " dered it to be taken out, and a new one cut
 " near the place. He mended fast.

7. " Miss Eliz. Kennedy, healthy, young,
 " and sprightly, suffered much by sea-sickness
 " in her passage from Newcastle to London.
 " Some months after, she was attacked with a
 " violent *colic*. Her pulse beat 135 strokes in a
 " minute. Her skin was parched thro' the day;
 " she sweated profusely thro' the night.

" She was bled fourteen times, and blistered
 " eight. As her fever abated, she was seized,
 " all of a sudden, with fits of unconquerable,
 " unrefreshing sleep, with moaning and uneasi-
 " nefs.

OF LOCAL REMEDIES.

“ness. She was reduced to such a state of weakness that she could bear no more evacuation. “The chief complaint, *the fixed pain*, resisted every attempt. In this helpless condition she “was deserted as incurable.

“Hearing of lord Warkworth’s recovery at “the *Hot-Wells*, she formed a resolution of proceeding thither. This resolution was strenuously opposed by one of her physicians. The other “believed her incapable of bearing the journey. “She, nevertheless, set out, fainted almost “every hour, and, after a journey of six days, “arrived not a little mended by change of air.

“When I first saw her she was bent double “with pain; her skin was tinged with a deep “yellow; her cough was hard, clangorous, “and hollow, without expectoration.

“Her faith was pinned on the waters and “exercise. I allowed her to make gentle trials of both. As I expected, they then aggravated her symptoms. Her’s was a case “that demanded an uncommon effort. Blisters had relieved, but the fixed pain was seated too deep for such superficial applications. “From the power of a *Seton* I flattered myself “with hopes of success; nor was I disappointed.

“She readily assented to the proposal, and “bore the operation resolutely; but, before the dressings could be applied, fell into a succession of fainting fits, and cold sweats, which “lasted for four hours. These were succeeded by a fever, which confined her to her “bed for some days. For the space of three “weeks she fainted away every time that the string was drawn.

“Her six month’s sufferings were, at length, “substantially repaid. To use her own expression,

“sion,

“ sion, *her fetters seem daily to loosen*, the fixed
 “ pain gave way; her fever, head-ach, cough,
 “ sweating, and drowiness abated. Nature re-
 “ sumed all her functions, all without the aid
 “ of one medicine. She drank the waters at
 “ last; leaving them too soon, she returned to
 “ London, where, for almost the whole winter,
 “ she was confined with a diarrhaea, mixed with
 “ pus. This and other subsequent complaints
 “ might have doubtless all been prevented, by
 “ an earlier insertion of the *seton*.

8. “ A gentlewoman of a scorbutic habit was
 “ troubled with a clangorous hollow asthmatic
 “ cough, with eructations of pure blood to con-
 “ siderable quantities. For advice she repaired
 “ to *Dublin*, where she sometimes met with
 “ signs of amendment; but, on every fresh cold,
 “ her cough returned. She was, at last, direct-
 “ ed to the *Bristol-hot-wells*.

“ I consented to her trial of the waters; but,
 “ as I prognosticated, her cough became more
 “ constant, lasting and violent, with eructati-
 “ on of pure blood. She had particularly vio-
 “ lent attacks every night at bed-time, and
 “ when she awoke. She grew more costive,
 “ she had frequent fits of coughing through-
 “ the day, and, in a word, could at last hard-
 “ ly breathe. Her pulse was nevertheless low,
 “ she was rather hyfteric.

“ I ordered a pea-issue to be cut above the
 “ knee. At first, the part inflamed; soon af-
 “ ter it discharged bloody ichor, and sometimes
 “ pure blood, to the quantity of several soup
 “ spoonfuls. In one week's time every com-
 “ plaint vanished. She walks, dances, and en-
 “ joys better health than ever. The issue still
 “ continues to discharge the same blood, ichor
 “ to an incredible quantity.”

9. “ Mrs.

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9. " Mrs. B. by catching cold after delivery,
" was seized with a sense of heat and pain over
" the whole region of the lower belly. Her
" pain fixed at last in the right side; there ap-
" peared an external fullness, and hardness,
" between the ring of the abdominal muscles,
" and the groin. About this time she lost the
" use of the leg and thigh of that side. She
" was withal hectic, emaciated, with a diarrhoea.
" Her physician advised change of air, and Bri-
" stol waters, where happening to sleep in a
" damp bed, to her other complaints she add-
" ed a cough.

" In this condition she was when I first vi-
" sited her. She could only lie on one side,
" and, as her bones threatened to burst thro'
" the skin, her shoulders and hips were covered
" with plaisters.

" By mild *astringents*, *opiates*, *diet*, &c. the
" symptoms were rather palliated than remov-
" ed. The swelling of the abdomen increased,
" she complained of pain in that part, as also
" about the *Ischium* and *Coccydix*, she could
" neither lie, sit, or stand. I ordered the parts
" to be first stuped with an emollient decocti-
" on; a poultice of bread and milk was also
" applied to the hardened part. Her pains
" seemed rather to increase; I persisted never-
" theless. From a discharge of matter I ex-
" pected no small relief, nor was I disappoint-
" ed. Matter was soon felt. The poultice
" was continued, until the whole lump seem-
" ed to be melted down. The abscess was
" opened; there issued forth a considerable
" quantity of bland pus. Her pains soon va-
" nished, as did her cough, purging, hectic,
" and every other complaint."

10. " Mr.

10. "Mr. Evetts of *Birmingham* came to the
 " *Hot Wells* very ill of a cough, hectic fever,
 " and stitches in his breast. An impostuma-
 " tion formed under his breast, which opened
 " gave him great relief. The middle part he
 " keeps open by way of issue, nor would he
 " (to use his own words) part with it for the
 " world."

11. "Plasket, journeyman to a linen-draper
 " in *Bond-street*, had been afflicted with that di-
 " sease vulgarly called the *Influenza del aere* in
 " London. When I first saw him, he was much
 " emaciated, had a violent cough, with an ex-
 " pectoration of a great quantity of green, vis-
 " cid, fetid defluxion, sweating, loss of appe-
 " tite, &c. He was once bled, had draughts
 " of *bark*, with *elix. vitrioli*, which seemed
 " to avail. For a fixed pain in his side, I or-
 " dered a seton, by which, joined to the wa-
 " ters, he received a complete cure. Desi-
 " rous of visiting Northumberland, the place
 " of his nativity, I advised him to confirm his
 " cure by a sea-voyage."

Of the joint effects of *Sailing*, *Bristol Water*,
 and particularly *Seton*, I cannot help recording
 the following *Case* copied from the patient's
 hand writing.

12. "September 1759, I sailed from *Cork* for
 " *New-York* with a strong sound constitution.
 " About the latter end of the voyage, I catch-
 " ed cold, which, continuing some months af-
 " ter my arrival, fell on my lungs, causing al-
 " most perpetual pain in the upper part of my
 " left breast. Spitting of blood soon followed;
 " after this was stopped, the pain and short
 " cough remained.

" Finding myself in a declining way, I was
 " advised to try the sea again; I embarked for
 " *Hif-*

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“ *Hispaniola*. After a few days sea-sickness, I
 “ found the pain quite gone. I returned to
 “ *New-York*, where I staid six weeks. About
 “ the latter end of this time, my pain returned
 “ with violence, I hardly could breathe. This
 “ determined me to try the sea again, which I
 “ did in a voyage to *Cork*, August 1761. Dur-
 “ ing the passage I was free of every complaint.
 “ I tarried in Ireland, until Nov. 1761; during
 “ which time I was often troubled with my old
 “ pain. I embarked for *Bristol*, where I staid
 “ till the latter end of January 1762. I drank
 “ the waters morn and even only, and that at
 “ home. My cough left me quite, my pain of
 “ the breast was easier, I grew stronger and
 “ better.

“ From *Bristol* I set out for *Cork*. In two
 “ day’s time I caught a violent cold, the wea-
 “ ther was severe, there was no stove on board.
 “ After I went on shore, I spat blood, and pass-
 “ ed blood by stool, my flesh mortified in many
 “ places, and was cut in slices. From *Cork* I
 “ embarked for *Dublin*; during this short pas-
 “ sage, the sea air brought me on a little. Af-
 “ ter my landing I continued fourteen days,
 “ rarely spitting blood. I then was seized with
 “ a vomiting of blood, which continued five
 “ days. I then returned to *Bristol-hot-wells*
 “ with spitting of blood, pain of my breast and
 “ cough, where I drank the waters on the spot
 “ with no considerable benefit.

“ By Dr. Sutherland’s advice I had a *seton*
 “ put into my side, near the part affected. In
 “ about a fortnight the pain shifted to the other
 “ side, and soon after vanished. I now can
 “ sleep on either side, and that soundly through-
 “ the whole night. My cough and blood-spit-
 “ ting are gone; I eat heartily, walk without
 “ being

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“ being short breathed. In a word, I feel myself a new man. By the Doctor’s advice, I soon intend to take a voyage to the *West Indies*, to confirm my cure.”

August 28th, 1762.

Rob. Forster.

“ N. B. After Miss Kennedy’s seton had discharged for some time, she complained of a tingling pain in her knees, with a weakness of her lower limbs. Never having heard of such symptoms consequences of setons before, I paid rather too little attention to these new complaints, till, at last, she was hardly able to walk. As the seton had evidently rescued her from death, I was loath to order it to be taken out; but, the lameness still increasing, I dreaded a total *paralysis*. I resolved on a middle course. I took out the cord, and converted first both holes into *pea-issues*. The symptoms manifestly abating, she set out with one.”

Not many months after, I met with a *case* which confirmed my suspicion.—Captain Chisholm of the *Scotch royal fuzileers*, laboured under a paralytic disorder, for which *Issues* had been cut, and produced the same complaints. For particular information I wrote to his brother, an eminent Surgeon of *Inverness*, who transmitted the following account.

“ As the warm season advanced, by the help of riding, goat whey, &c. I thought his speech mended much, though, at the same time, I found his limbs rather more infirm; this I was at a loss to account for: however, I took particular notice, that by having the issues in each shoulder, the muscles then had not power to act, or, by occasioning some pain, he was
“ afraid

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“ afraid to let them act, or that the long and
 “ constant drain might rather weaken than be
 “ of use; he seemed to creep together, which I
 “ thought prevented his walking so firmly as I
 “ could wish, for which reasons I advised him
 “ to let the issues close up, to see what might
 “ be the consequence. To my great satisfaction,
 “ in fourteen days or thereby, in place of sliding
 “ his feet as he did before, he now walked firm-
 “ ly with great ease, without any restraint; up-
 “ on the discovery, I did not open the issues,
 “ as I was determined to do, had he not been
 “ better. I can’t say it was from any know-
 “ ledge or observation in a former case I did it,
 “ but that I apprehended from reason it might
 “ answer.”

On this same subject happening to correspond
 with Dr. Pringle, his remarks are as follow.
 “ Such extraordinary symptoms as you menti-
 “ on, I have not observed to happen from ei-
 “ ther *seton* or *issue*; but I have frequently seen
 “ both very troublesome, and even occasion shi-
 “ vering fits, so that I have often been oblig-
 “ ed to let them heal. I have suspected that
 “ these complaints were owing to the irri-
 “ tation of some branches of a nerve that his
 “ near the fore. I have likewise suspected that
 “ we generally use too large *peas*, I mean with
 “ regard to the depth of an issue, and that we
 “ should have a better chance of having fewer
 “ complaints after this operation, if, instead of
 “ one large pea, we used two small ones.”

P A R T

PART VII.

OF THE

NON-NATURALS.

OF

ANIMAL OECONOMY, IN GENERAL.

IN the preceding parts of this work I have *compared antient with modern Baths, I have analysed Bath and Bristol waters, I have accounted for their virtues, I have confirmed them with histories of cures.* With the doctrine of waters I have intermixed the *practice of sea-voyages, and local remedies.* *Preface.*

There are certain rules and cautions in respect of *diet, exercise, air, sleep, evacuations, and affections of the mind,* without which mineral waters, sea-voyages, nor remedies of any sort can avail. There are certain duties which patients owe to themselves. From ignorance, or contempt of such rules, thousands fall short of that period which natural strength, or constitution might have reached. These fall under the subject of the *Non-naturals.* These I have reserved for the subject of this my last part.

VOL. II.

I

Ap-

OF THE NON-NATURALS.

Applied to aliment, air, exercise, sleep, evacuations, and the passions, the epithet *non-natural* seems absurd, nor can the authority of Galen, or the continuance of the appellation reconcile it common sense. But, such is the force of custom, that errors, thro' time, require reverential rest. I therefore think myself obliged to range six things absolutely necessary to health under the general head of *Non-naturals*.

Introductory to that regimen which I would recommend, it may be not only useful, but pleasing to give those who are unacquainted with the profession a general notion of the doctrines of *Digestion*, *Sanguification*, and *Circulation*. These are the functions of the human frame, this we call *Animal Oeconomy*.

Digestion.

1. By a curious configuration of the parts, and action of the muscles, our food is ground down by the teeth, and moistened by the saliva, or spittle. It is then protruded down the gullet, where it is farther softened by an unctuous humor distilled from the glands of that canal. Thence it slips into the stomach, where it is farther diluted. There it is subtilized by the internal air, macerated by the heat of the circumjacent viscera; agitated by the perpetual friction of the muscular coat of the stomach, by the pulsation of the arteries, by the alternate elevation and depression of the *diaphragm*, as also by the compression of the muscles of the abdomen or belly.

From the stomach it is propelled into the *guts*, in the form of a thick uniform ash-coloured fluid. There it receives a thick yellow bitter *bile* from the *gall-bladder*, another scarce yellow, or bitter from the *liver*, with a limpid mild fluid, which issues plentifully from the *Pancreas*, or *Sweet-bread*. These liquors resolve viscid substances, incorporate oily and watery
and

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and thus prepare the aliment for entering the mouths of the *Lacteals*, small vessels which serve to convey the chyle to the blood. This constitutes the first stage of digestion, or concoction.

2. THE *Lacteals* take their rise from the intestines. Through these the fine milky part of the chyle is absorbed, while the grosser yellow fibrous part is slowly protruded and ejected in the form of excrement. After various communications, separations, and protrusions, these lacteals pour their contents into a sort of cistern or reservoir, placed on the highest vertebrae of the loins, where it is still farther blended with lymph from several minute vessels which empty themselves in this same cistern. From this bag, the chyle thus diluted mounts up through a narrow transparent pipe called the *Thoracic-duct*, which opens into the *Subclavian vein*, and mingles with the blood, and so conveyed to the heart, while the most subtile part passes into the blood by certain absorbent veins dispersed all over the gullet, stomach, and guts, before the aliment is elaborated into chyle. Hence it is that gellies, chocolate, or wine refresh immediately.

Sanguification.

3. THE CIRCULATION, constitutes the third *Circulation* concoction, and is thus performed. The heart *on* is furnished with four distinct muscular cavities, an *Auricle* and a *Ventricle* on each side. The chyle is received into the right auricle; which, contracting, pushes the new blood into the right ventricle at that instant dilated. The ventricle just filled contracts itself, and forces the blood into the pulmonary artery, where the crude mixture passing through its minute ramifications, is ground and compressed by two contrary forces, viz. the force of the heart driving it forward through against the sides of the bronchia, or air-vessels,

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vessels, and by the elastic force of the air equally repelling it from the opposite side. It returns by the pulmonary veins, which pour it into the left ventricle. The left ventricle, thus filled, contracts itself, and drives the blood with rapidity through all parts of the body; from whence it returns thro' the veins which pour it into the right auricle as before. The nerves transmit animal spirits to the heart to assist its contraction. The heart sends blood to the brain to supply it with spirits. This is the only perpetual motion which ever was, or ever will be found out; the work of Omnipotence. This is the *Circulation*, the glory of which is due to England.

Inferences.

WHILE the Circulation goes on uninterruptedly, man continues in health. When it comes to be irregular, he sickens. When it ceases he dies.

By means of this circulation it is, that all the secretions are duly performed, noxious humors discharged, and distempers relieved.

Where the circulation is naturally quick and vigorous, it is naturally hot. Where it is languid, the temperament is cold. Where the solids are compact and firm, the constitution is strong. Where they are lax and delicate, it is tender. Where bile or phlegm predominates, complexion corresponds.

Thus from different velocity of the circulation, different strength of the stamina, and different mixture of the fluids in every individual, arises that peculiar disposition, or *ιδιουγενεα*, which is the cause why things are hurtful to some that are beneficial to others, and why the same person finds the same things agree and disagree at different times.

THE sun stands not still at noon, it immediately declines. So fares it with man. As in all machines, the springs and moving pow-

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powers, by reason of changes in the matter whereof they consist, at length become weak and uselefs; in the same manner does the animal machine. The fibres grow hard, solid, and rigid, the capillary vessels become first straighter, and then impervious; insomuch that the heart can hardly overcome their resistance. The circulation is confined to a narrower compass. Strength decays, we lose our wonted activity, the seeds of mortality are sown with our very embryos. There are certain diseases peculiar to certain periods of life. The *Red-gum* is the disease of infancy, *Consumption* of youth, *Rheumatism* of manhood, and *Gout* of old-age. But as unnatural seasons produce May-flowers early in the spring; or as unusual colds retard them till June, so it is, that we see young men torn to pieces with the gout, old men die of the measles. As faction, corruption, and mal-administration naturally produce the diseases and extinction of the body-politic, even so hereditary taints, mal-confirmation, intemperance, ignorance, and indolence not only shorten and embitter our days, but hasten the death of the natural. Few attain to that period which nature designed. Vapors and spleen are too often our own acquisitions.

C H A P. I.

Of ALIMENT.

Excess.

I. **W**HEN we take in a larger quantity of aliment than our digestive faculties are able to assimilate into chyle, such never can turn to good nourishment.

High sauces.

2. When our food is highly saturated with pungent salts and oils, such sauces or mixtures corrupt the blood.

Gross habits.

3. People of gross habits and feverish disorders should eat sparingly. For with such the best food turns to disease. *Impura corpora, quo magis nutris, eo magis laedis.*

Fasting.

4. Unseasonable abstinence has also bad consequences. For, without a supply of fresh chyle, animal juices naturally acquire a putrescency. Inanition produces fevers of the worst sort, as those who fast too religiously feel to their cost. Immoderate fasting (instead of raising devotion) sours the temper, and wastes the strength. *Qui fame moriuntur, febre moriuntur.*

Experience the best guide.

5. In chronic disorders, experience best tells what agrees, or disagrees. Such a quantity is to be taken in as is sufficient to support, not to overload the stomach, to finish the meal with a relish for more. The food ought to be well chewed. Flesh pounded in a mortar ferments much sooner, than in one solid lump. Whatever corrupts slowly oppresses the stomach. The weak, emaciated, hectic, or consumptive ought to observe the strictest regimen. To such, excess in things the most innocent is perillous.

Mixtures.

6. Nature abhors discordant mixtures, fish, flesh, wine, beer, cyder, cream, and fruit. These

distend

distend the bowels with wind, and prevent digestion.

7. BREAD, milk, and the fruits of the earth ^{Simple} dressed in a plain simple manner together with ^{food most} water were the aliment of Adam's family. ^{natural.}

The first inhabitants of Greece lived on the spontaneous productions of the woods and fields. The *Golden-age* seems rather to have taken its appellation from its simplicity of manners, than delicacy of food.

*Contentique suis nullo cogente creatis
Arbuteos faetus, montanaque fraga legebant.*

Hesiod, Pliny, Ovid, &c. ascribe the invention of tilling the ground, and sowing corn to Ceres.

*Prima Ceres unco glebam dimovit aratro,
Prima dedit fruges, alimentaque mitia terris.*

Bread made of the purest flower of wheat nourishes much, and binds the belly. Mixed with bran it is opening, and nourishes less. The *Farinacea* are all antiseptics. Wheat-bread properly fermented, and well baked, is the most valuable part of diet.

8. MILK is already elaborated, prepared and ^{Milk.} digested in the body of the animal. It is an extract of animal and vegetable food. It is replete with nutritious juices, and wants little else than the colour to be blood. Milk was strongly recommended by the antients. The milk of *Stabiae* was in great vogue. Thither consumptives were sent, not only on account of the sea-vapor, and the air of *Vesuvius*, but for the excellency of the milk. The *Mons Lactarius* of Cassiodorus is thought to have been there, a
I 4 place

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place celebrated for salubrity of air, and abundance of sanative milk.

Case.

One *Davus*, who went thither in a consumption writes thus, "Huic ferocissimae passioni
" beneficium montis illius divina tribuerunt,
" ubi aeris salubritas cum pinguis arvi fecun-
" ditate consentiens, herbas producit dulcissima
" qualitate conditas, quarum pastu vaccarum
" herba saginata lac tanta salubritate conficit,
" ut quibus medicorum consilia nesciunt pro-
" desse, solus videatur potus ille praeferre red-
" dens pristino ordine resolutam passionibus
" vim naturae. *Repleti membra evacuata, vires*
" *effetas restaurat, et fomento quodam reparabili*
" *aegris ita subvenit, quem ad somnus labore sati-*
" *gatis.*" *Cassiod. Lib. xi. Variar. Epist. x.*

Baccius (*De Thermis* lib. iv.) says, *Neopolitani Medici pro ultimo refugio aegros phthisicos, et qui sanguinem exspuunt, vel ejusmodi thoracis ulcera, et alia vitia patiuntur, ad Tabernas mittunt cum successu adeo salubri, ut sint qui in iis totam degunt vitam.* Later instances there are not a few of consumptives who went to the same place with *Davus's* success. Sir Hollis Man was so bad when he embarked, that his coffin was carried with him. He has lived many years in *Italy*, and is now British Resident at *Florence*.

*Common
practice
absurd.*

I hardly know a disease in which common practice is more deficient, or absurd, than in a consumption. From the delicacy of the lungs and the qualities of the substances commonly employed, heating, irritating, relaxing, and astringent medicines carry the poor phthisic often post to his journey's end. To quiet the cough relaxing cloying linctus's destroy the appetite, and bring on purging. Astringent mixtures cork up, choak, and increase the fever. Few give themselves leisure distinctly to find out
what

what is indicated. When we endeavour to cure a consumption by remedies which respect the habit, we satisfy one indication only, while another no less important demands our attention. Expert surgeons rely not altogether on topical applications in the cure of sordid sinous ulcers. An ulcer is the same every where, the same topical remedies, adapted to the nature, and situation of the part are, every where, equally necessary. To correct the vice of the fluids, to consolidate the broken lungs, are equally the intentions of the rational practitioner. The former enhances the general care. The latter seems to be neglected. May not want of attention to so material a circumstance be one great cause of want of success?

Of equal numbers, I verily believe, there are as many cured of consumptions by goat-whey, as by Bristol water. Milk is often drank under great disadvantages, either in improper air, or in moorish mountainous places, where fogs, and moisture compose an atmosphere unfriendly to wounded lungs. Fit places may surely be found on sea-coasts, as *Stabiae* was, where the pasture might be improved by propagating the tribe of vulnerary pectoral plants, agreeable to a hint given by Galen. Such places are the faces of the hills and cliffs around the *Hot-Wells*; there goats might be fed as well as asses.

Nature, if I am not mistaken, has provided every thing that can avail consumptives, in *Butter-milk*, *water*, *Sailing*, *Drains*, *Air*, and *Diet*. Where feverish heat predominates, in costive habits especially, butter-milk, and brown-bread are truly specifics. Boerhaave lived on this very diet, for many years. His pupils have introduced it every where. In England it is the food

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food of hogs. When I first introduced it at the *Hot-Wells*, my advice was treated with ridicule; I could hardly prevail on three to make use of it, the first season. The practice is now universal.

Cases.

“ Dr. Baynard (in his Appendix to Floyer’s book on cold Bathing) assures his readers, that, by *Butter-milk* severals, to his knowlege, were cured of *fluxings*, *preternatural heats*, and some of confirmed *bestics*. He quotes the concurrent testimonies of Sir John Hodgkins to the same purpose. “ Toby Purcell governor of *Duncannon-fort* hath drank nothing but *milk*, and eat *bread* for more than twenty years, which cured him of an inveterate gout.—“ Mr. William Masters of *Cork* drinks nothing but *milk*, and has recovered his limbs to a miracle.—I have had lately sent me some remarkable *Cures* in both *Atrophies* and *Pthifises* by drinking *Goats-milk*. The common Irish feed on potatoes, and four skimmed milk. This may be the reason why they are generally free from *pulmonic coughs*, and *consumptions*.”

Theophilus Garencieres (in his book *De Tabæ Anglicana*) says “ *Hyberni solo lactis usu qui ipsis pro potu, et cibo est, ab hoc malo se tuentur. Lact enim parte ebutyrato optime nutrit, et sanguinem laudabilem generat; parte serosa plurimum abstergit, et caseosa astringit, quæ omnia ad pulmonis robur conservandum non parvi sunt momenti.*”

Goats-whey is a specific in Scotland for *consumptions*. The Scotch highlanders live all the summer on *milk*, *whey*, and the *blood* of their cattle.

Baynard gives a remarkable instance of the effect of *Butter-milk*, and *Tepid Bathing*. “ Mr. Hanbury of *Little-myrtle*, aged 23, was highly

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ly feverish, with heat, thirst, quick pulse, little urine, mouth parched reduced to skin and bones by an old ague. I prepared a Bath with violet, strawberry leaves, cichory, plantane, &c. He was bathed twice a day for seven weeks, taking nothing but butter-milk. By degrees he rose to other food, and has since had children by two wives.—Severals, to my knowlege, have been cured of *flushings*, preternatural *beats*, and some of confirmed *hætics* by the sole use of *Butter-milk*.—Sir John Hodkins, President of the Royal Society told me, that, to his knowlege, diverse persons had been cured of *Hætics*, and *Phthysies* by the sole use of *Butter-milk*.—Mr. Heby told me two instances of his tenants cured of hectic fevers by drinking of *Butter-milk*.”

“ B. Dempsey, Clerk to Mr. Macartney, merchant of Bristol, laboured of a violent fever with nocturnal exacerbations, which brought on deliriums, profuse sweatings, and constant vomitings, which occasioned a most putrid stench not a little assisted by the air of the chamber where he lay which was dark and close. By Dr. Drummond’s advice, and mine, he took medicines and ptisans which he constantly threw up, as he did anti-emetics of every sort. Despairing of means of relief, I mentioned sour butter-milk which he drank and kept. When we returned next day, we found every symptom mended. We ordered butter-milk for medicine and food. He recovered.—Next year (in the same bad air) he was seized with a fever of the same kind. The same medicines were tried in vain. No sooner began he the use of *Butter-milk*, than he began to recover, and now enjoys a perfect state of health.”

9. WHEN

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9. WHEN the fruits of the earth had undergone so great a change by the *Deluge*, God permitted man to eat flesh. *Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things.* The clean beasts were taken into the *Ark* by sevens; the unclean by twos. The surplus of the first was probably intended for the provision of *Noah* and his family. *Moses* was the first writer who selected a particular food for the *Jews*, viz. bread, wine, milk, honey, quadrupeds that divided the hoof, and chew the cud, all the feathered kind, and fishes that have fins, and scales.

In acute distempers, *Hippocrates* lays down the best rules extant. These fall not properly under my present subject.

Sea-salt
useful.

Sea-salt has been in use ever since animals were added to our food. Moderately used it is very wholesome; to excess, the reverse. *Schroder* and *Hoffman* give us instances of putrid scurvy, and pestilential fever, produced in towns besieged, particularly at *Gronningen*, by the inhabitants living on meat without salt. Travelers tell us of a people in the *East Indies*, prohibited the use of salt with their animal food; they are said to be remarkably infected with mortal putrid diseases. In inflammatory disorders, it stimulates too much.

The flesh of animals in their prime of life, of such as are castrated, and not used to hard labour is best.

The flesh of granivorous birds is not so oily as that of water-fowls. Mutton is the best of all flesh, for the delicate and robust. Bath and Bristol Hot-well mutton are excellent. Beef and pork are proper only for the strong, and those who use hard exercise.

10. POND-FISH, or such as are fat, are hard *Fish.* of digestion. Such as are caught near the sea-shore are lighter. Boiled fish is lighter than roasted.

11. Bitters bind the belly. Acids gripe the *Bitters.* bowels. Salted things promote stool and urine. Sweet things breed phlegm.

12. Onions, leeks, raddishes, and all the al- *Alcales-* calescents are antiseptic. Mustard, and cresses *cents.* occasion a difficulty of urine. Celery is diuretic. Aromatics heat. Colworts and lettuce cool. Cucumbers are cold, crude and hard to digest. Ripe fruits open the belly. Unripe bind. Pulses of all sorts are windy. Honey promotes urine and stools, but gripes many. Soft bread increases acidity in stomachs troubled with heart-burns; biscuit less. Confections and dainties tempt people to eat too much, and are hard of digestion. Where the aliment ferments too violently from putrescency, or from debility of the stomach, acids, bitters, aromatics and alcalescents are proper. If cold cacochymy is added to bad habit, the patient ought to abstain from farinous foods and gellies, because these increase the tenacity of the humors, and e. c. If the body begins to be puffed up with watery humors, broths are sparingly to be used. Roasted meats, and fresh water fish with generous wine are indicated. If acid acrimony abounds, as in young people, eggs, broths, hartshorn jellies are best. If e. c. the humors tend to alkaline putrescency, barley broths, bread, and milks are the foods. Acid liquors are the drinks. If broths are allowed, they ought to be acidulated.

Physicians may be too churlish. Certain it *Severity* is that patients generally digest those things *injudicious* easiest which their stomachs crave. People in fevers

Longings.

fevers abhor meat; offer them butter milk, or barley water acidulated, they snatch them greedily. Longings ought to be lessons to physicians. Hence it was that Hippocrates (*De Affectionibus*) lays it down as a maxim, *Quosunque cibos, aut obsonia, aut potus decumbentes expetunt, ea suppetant, si nullum corpori nocumentum sit futurum.* Aphor. 38, the same Hippocrates lays it down as another rule, *Meats and drinks not so very good are sweeter, and therefore to be preferred to better more unsavoury.* “A tempore consuetudinis, etiam si deteriora, insuetis minus turbare solent.” Many are the examples of patients being cured by things which they longed for, and which had been with-held as hurtful. “In the cure of diseases, Sydenham advises physicians to pay more attention to the appetites, and ardent desires of the sick (provided the things desired do not manifestly endanger life) than to the still more dubious and fallacious rules of art.” Physicians ought to keep the happy medium.—Suppose a cachectic labouring of alkaline acrimony longs for broth; broth acidulated may be allowed.—Women sometimes labouring of acid acrimony, long for vinegar with their food; they may be indulged, by giving them absorbent powders before dinner. By such artful condescensions, Physicians win their patients hearts. *Concedendum aliquid et consuetudini, et tempestati, et regioni, et aetate,* says Hipp. Aph. 1—17.

Statical proofs.

13. By *statical experiments*, the *Sanctorians* have discovered that the body perspires but little while the stomach is too full, or too empty.—That full diet is prejudicial to those who use little exercise, but indispensibly necessary to those who labour much.—That food the weight of which is not felt in the stomach, nourishes best,

best, and perspires most freely.—That he who goes to bed without supper being hungry, will perspire but little; and, if he does so often, will be apt to fall into a fever.—That the flesh of young animals, good mutton, and bread well baked are the best food.—That the body feels heavier after four ounces of strong food that nourishes much, such as pork, eel, salt-fish, or flesh, than after six ounces of food that nourishes little, such as fresh fish, chicken, and small birds. For, where the digestion is difficult, the perspiration is slow.—That unusual fasting frequently repeated brings on a bad state of health.—That the body is more uneasy and heavy after six pounds taken in at one meal, than after eight taken in at three.—That he destroys himself slowly who makes but one meal a day, let him eat much or little.—That he who eats more than he can digest is nourished less than he ought to be, and so becomes emaciated.—That, to eat immoderately after immoderate exercise of body or mind is bad; for a body fatigued perspires but little.

14. "NOAH began to be a husbandman, and *Wine.*
 " he planted a vineyard, and he drank of the
 " wine and was drunken."

Not long after, it is probable *beer* was in- *Beer.*
 vented; for Herodotus informs us that, in the
 corn-provinces of *Egypt*, where no vines grew,
 the people drank a sort of wine made of *barley*,
 "Οἶνω ἐκ κριθένων πεποιημένω. Those who have been
 accustomed to beer ought not to be too severely
 interdicted its use; beer seems to have a
 more durable effect than wine. Mum, or strong
 beer, which is an extract of corn, taken in small
 quantities with biscuit proves an excellent me-
 dicine in disorders proceeding from cold lentor.
 Its spirit is fixed in a more tenacious bond, and
 there-

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therefore produces more durable effects. Wine, beer, cyder, perry, and all fermented liquors are all antiseptic. When beer neither oppresses the stomach, nor binds the belly, but passes by urine, it may be allowed. Where it generates wind, passes sluggishly, or breeds stony concretions, it ought not.

Wine drank too freely weakens the man, as may be seen by his actions. Sweet wines promote stools, but they excite flatulency and thirst; they promote expectoration but impede urine. Tawny austere wines are good when the body is loose, provided there be no disorder in the head, no impediment in spitting, or making water. Pure wine is best for the stomach, and bowels. Diluted with water, it is best for the head, breast, and urinary passages. Strong Spanish, or Hungarian wines strengthen the stomach wonderfully.

*Mineral
waters
improper
at meals.*

15. Mineral waters are possessed of a spirit which helps digestion, and promotes sleep. Patients require but little pure wine while they drink waters. Hectics ought to drink none. Mineral waters are all hard, and therefore unfit for domestic purposes until they are robbed of their acid, by boiling. Injudicious therefore is the practice of those who recommend Bath waters at meals. People of lax bowels may drink them, none other. Pure soft water is the best of all diluents, especially to those who are naturally costive. Those who are troubled with stomach complaints ought to drink wine, or rather *rum*, or *brandy*. The latter are only lowered with water, the former are composed of we know not what.

*Dilution
mistaken.*

16. There have been Physicians of no small note, of the opinion that the fluids could not be too much fused, as thin fluids pass most easily thro'

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Vor

thro' narrow vessels. From this notion, they inculcated the perpetual dilution of the blood by tepid watery liquors; in these they reposed their chief prophylaxis. Hence those encomiums of *Bentekoe*, and others, on *Tea, Coffee, &c.* From experience we know that no people are so subject to cachexies, as those who indulge in slip-slops. Women hence become pale; their blood is so fused that it runs off perpetually by the uterine vessels. The uterus itself becomes so flaccid, that many, if they happen to conceive, are rarely able to bear their fruit to the time of maturity. The hardest parts of animal bodies exposed to the vapor of warm water, become soft. Hartshorns become scissible. From the abuse of warm water Hippocrates enumerates *carnium effeminationem, nervorum impotentiam, mentis stuporem, haemorrhagias, animi deliquia*. In Van Eem's *Collection of Boerhaave's* academical prelections, *De Nervorum morbis*, we find that illustrious Physician complaining that he had seen many abused by such slops, so enervated that they hardly dragged their languid members after them, some afflicted with apoplexy, and palsy. "Notum est toties morbum chlorosin, et summum languorem, uteri haemorrhagias fieri mulieribus, dum potibus aquosis tepidis abutuntur."

These Theorists seem to forget the natural state of the blood in health. "Open the vein of a dairy maid, the blood, as it flows from the orifice, concretes instantly into a solid mass." "—Open the vein of a valetudinarian, the red globules, and the serous swim about in a slimy ill-coloured homogeneous fluid." By this observation alone, practitioners know, that by too great dilution, a fox-hunter may be converted into a fribble. Without a certain degree of

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spissitude, the humors cannot be kept within their proper canals. If the red globules are melted down to the consistence of the serous, the sanguiferous vessels become empty. If the serous acquire the consistence of the lymphatics, all those evils which proceed *ab errore loci* must insue. The whole will, in time, pass through the exhalant vessels, the body must be consumed. In sound bodies, the natural heat is maintained while the solids and fluids preserve their natural disposition. But, if the humors come to be too much diluted, the solids naturally become flaccid. Hence languor, and chilliness. The watery part of the blood accumulates in the cavities of the body; thus it produces *Cachexy, Dropsy, &c.*

Tea-drinking.

TEA-DRINKING might produce many salutary effects, were the custom confined to people of rigid fibres, and active lives. The penetrating quality of the fluid added to the saponaceous antiseptic property of the sugar would render the infusion miscible with the blood. Obstructions might be removed, acrid salts diluted, viscid phlegm dissolved. The astringency of the plant might answer the good purpose of passing off the liquor more quickly. The sanguinary, the bilious, the phlegmatic and the melancholic might all find relief. Fevers might be prevented in the young, and aches and obstructions in the old. The belly might be kept soluble, the urinary passages cleansed, and insensible perspiration, the healthiest of all secretions, might be promoted.

But, such is the force of example; the lazy, the indolent and effeminate, men as well as women of weak nerves, relaxed fibres, and foul juices indulge themselves twice or thrice a day in the immoderate use of a tippie, which enervates

vates more and more. They dilute medicated waters with water warm and relaxing. They dread the effect of the plant which (by its astringency) is calculated to brace the muscular coat of their weak stomachs. They make use of an infusion so weak that it relaxes more and more. Hence indigestion, sickness, fainting, tremors with all their direful consequences. The contractile fibres lose their elasticity, the food lies like a load. Hence sourness, flatulencies, vapors, &c. They desert the springs of health with disgust, when they have been labouring to counteract the virtues of the waters.

Galén concludes his precepts on *Diet* with this advice. "I beseech my readers not to degrade themselves to a level with the brutes, by eating and drinking every thing that pleases their palate. Let them, whether they understand physic or not, consult their reason, and observe what agrees or disagrees with them. By a diligent practice of this rule, they may enjoy a good state of health, and seldom stand in need of physic, or physicians."

C H A P. II.

Of A I R.

§. I. **F**OR full satisfaction, I beg leave to refer the reader to those chapters which treat of *Sea-air*, and *Pectoral Diseases*. In this chapter, I propose (for method's sake only) to lay down some cautions relative to domestic air, in general.

Air.

1. Air has an inconceivable influence on the human frame. Man may live whole days without food; not a moment without air. Epidemical diseases attack persons of all ranks, those who differ extremely in point of diet, exercise, amusement, occupation, &c. In such cases, change of diet avails but little. Those who dread infection must change air. No man, in his senses, would tarry in *Constantinople* during the plague.

*Domestic
air.*

2. Patients have not always the means of travelling, or changing air. It is therefore the duty of those who watch over the health of their fellow citizens, 1. To measure the heat of the human blood, in different ages, constitutions, and diseases; and 2. To attend to those effects which different airs, winds, and seasons have on particular constitutions. If the climate cannot conveniently be changed, we always have it in our power to alter the nature, and qualities of that particular atmosphere in which patients breathe; or, in other words, we may accommodate the nature of the air to the nature of that season which is known to be most healthy.

3. In

3. In estimating the different degrees of heat, *Heat imaginary.* the ancients wisely confirmed their observations by experiments. The same air, and the same heat appear different to different people. The standard of fancy has, in all ages, been a false standard. If we revolve Galen's book, *De Temperamentis*, we find an ingenuous confession in proof of our present position, *Lib. 2. cap. 2. apud Charterium, Tom. 3. p. 60.* "Et quid opus in tam dissimilibus exemplum proponere? Cum ipse aer qui simili sit calore, varie tangenti occurrat, prout alius veluti caliginosus, halituosus, alius fumosus, fuliginosus, interdum purus omnino est. Igitur in pluribus, iisdemque differentibus, aequalitas caloris consistit, quae inconsideratis quasi inaequalis sit, imponit; propterea, sciz. quod non undequaque similis apparet. Caeterum homo qui rationes quas proposui expendat, et sensim multa particularium experientia exercuerit, is nimirum aequalitatem caloris in pueris, florentibusque, inveniet, nec eo fallitur quod alter in humida, alter in sicca substantia repraesentetur; quippe lapis aliquando pari cum aqua calore esse potest, nullum faciente discrimen quod lapis siccus sit, aqua vero humida. Ita igitur mihi, cum pueros, juvenes, adolescentes millies considerassem, praeterea eundem, infantem, puerum, adolescentemque factum; nihilo calidior visus est, nec puer quam aetate florens, nec aetate florens quam puer, sed tantum quemadmodum dixi, in pueris magis halituosus, et multus et suavis; in florentibus exiguus, siccus, nec similiter suavis esse caloris occurfus. . . . Itaque neuter simpliciter videtur calidior; sed alter, multitudine ejus quod dicitur, alter acrimonia."

Experi-
ments in-
accurate.

4. Moderns taking it for granted that heat proceeded from *attrition*, rarely confirmed their opinions by experiments; or made their experiments in a vague negligent manner. Galilaeo, Drebellius, Paschal, Farenheit, Reaumur, and others have devised thermometers for determining the natural heat of bodies of all sorts, animate, or inanimate. Boerhaave, Hales, Derham, de Sauvages, and others inform us of the degrees of heat, but keep us in the dark in regard to the time of the application of the Thermometer. How far such experiments are to be depended on, we now proceed to inquire.

Heat dif-
ferent.

5. Universal experiment determines the heat of the human body, at middle age, and in a state of health at 95, 96, degrees. But there have been found instances of men in health whose natural heat has constantly raised the mercury, some to 97, rarely to 98, and more rarely to 99. How erroneous would it be to treat such as feverish, when this heat was only constitutional!

Air cools,
and acce-
lerates.

From an opinion that one of the principal uses of external air was to cool the blood as it circulates through the pulmonary vessels, Hales, Boerhaave, and other great men were of opinion that man could not long subsist in air which equals, or exceeds the native heat. Under the aequator the same is the degree of heat with the natural. Men not only continue healthy under the aequator, but in many other parts whose heat exceeds that of the human body. Air seems not only to cool the blood, but to accelerate the circulation also.

Accurate
experi-
ments.

6. In his *Ratio Medendi*, professor de Haen (Cap. 3. *de aere* &c. Cap. 19. *De supputando calore corporis humani*) seems to have added much light to

to the present subject. With Thermometers prepared by *Marci, Prins, Reaumur*, and *Fahrenheit* he made experiments (to use his own words) *Non autem semel, deciesve, sed pluries ipsissima experimenta iterata sunt, et semper idem docuerunt.*

Under the arm-pit of a man in health, he put the thermometer for half a quarter of an hour, and found it rise to 95, 96. Continued for a quarter, it mounted to 97, 98, 99. For half an hour 100, 101. For one hour 101, 102. For two hours, it rose no higher.

Applied to the arm-pit of a man in a moderate feverish heat, for half a quarter of an hour, it rose to 100. After one quarter 101, 102. After half an hour 102, 103. After one hour 103, 104.—By other trials, in continued fevers, it rose to 106, in half an hour. In one hour to 109. Sometimes, in half an hour to 103. In an hour to 105.—In a *Semi-tertian* composed of a continual fever and a quotidian intermittent, he observes that the patient was so very sensible of cold in the fit, that he could hardly bear it. In the mean time, the thermometer rose to 104. The symptoms of the cold fit were evident, shivering, chattering of the teeth, shaking, and a perfect sense of internal chill, with a quick, small, contracted pulse. During the hot fit, the pulse was full, free, and quick. In states so opposite one would have hardly expected the same degree of heat. Experiment shewed the same exactly. Hippocrates Aph. 4. 48. 7.—72, says, *In febris non remittentibus, si externa frigeant, et interna urantur, et sitiant, lethale.* This aphorism has generally been depended on; but this cannot be said to be the case of our patient; he complained of cold internal and external. In

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the cold fit, had not the thermometer been applied, no man would have believed that the heat exceeded the natural, by 7 or 8 degrees.—He gives the history of a man who, in a marble chill which lasted twenty four hours before death, without any sensible pulse, raised the mercury in the thermometer to 97. Here was heat exceeding the natural without pretence of attrition. The difference of heat between thermometers differently placed, he found 30.—From these experiments, our author ingenuously concludes, That the degree of heat in persons sound and sick is too rarely determined with that precision which such subjects require. The real degree of heat cannot be fixed in less than an hour. Practitioners who gallop over patients with their second-watches, and pocket-thermometers, may surprize nurses, they add nothing to the improvement of medicine. *Patientia igitur in experimentis, libero ab hypothesis animo capiendis, multa dediscimus quae humana arrogancia perperam addidisceramus*, says De Haen, pag. 124.

*Climate
inconstant.*

§. II. In this inconstant climate, winter and summer succeed one another, more than once, in the space of twenty-four hours. Our good and bad weather may truly be said to depend on the point of the compass. South winds relax, and open the pores. North winds brace, and stop perspiration. Nothing can be more pernicious to invalids than air too cold, or too hot, too moist, or too dry.

*Cloaths
not rashly
to be
changed.*

1. If Hippocrates advised his patients to guard against the approaching cold of the autumn, in the serene climate of Greece, by *thick cloathing*, ἐσθῆτι παχεῖν, how much more reason have we to be careful? Mortalibus tum vitae, tum morborum

horum causa est aer, he adds *De flatibus*, pag. 296. Sydenham condemns the giddy practice of laying aside winter garments too early in the spring, and of exposing bodies over-heated to sudden chills. This practice, he affirms, has destroyed more than famine, pestilence, or the sword. *De humor.* pag. 50, lin. 53.

2. Rarely have we opportunities of contend- *Heat dan-*
ing on the subject of cold air; oftener on that *gerous.*
of heat. From cold, invalids sometimes suffer. To avoid this evil some plunge into a greater. In acute diseases, patients are not only shut up within bed-curtains, but buried under loads of blankets. Invalids, and people in health lift up every chink. Damned to hot bed-chambers, and self-perspiration, sick people are often broiled to death. Self-perspiration not only hurts by heat, but by putrescence also. Hence difficulty of breathing, anxiety, dreams, delirium, miliary eruptions, and often death. This practice was condemned by Forestus in *Germany*, two hundred years ago; by Sydenham, and every rational practitioner.

To those cautions laid down in the Chapters of *Sea-air*, and *Pectoral Diseases*, I am now only to add, That, in bed-chambers, the degree of heat may be kept up by a Thermometer from 60 to 65, summer, and winter. Those who are able to get out of bed ought to walk into another room; the sheets ought to be aired, the windows and doors ought to be thrown open. Those who cannot get out of bed, ought to be bolstered up through the day.—By cover- *Examples.*
ing a patient too warm, and by lecturing too long to seventy students, Professor De Haen ingenuously confesses that he was the cause of miliary eruptions in a pulmonary case, *idque meo*
palam

palam fateor neglectu. From this error gaining experience, he gradually relieved the patient's body of part of the bed-cloaths; he passed him over slightly, in his rounds, referring his clinical lecture till he came into the hall. Remembering Sydenham's precepts, and example, viz. *That eruptions caused by hot air, ought to be cured by taking the patient out of bed, and by medicines diluent and cooling*, all these he strictly followed, so that, by degrees, the man's anxieties decreased, his sweats abated; in four days time, the miliary eruptions began to scale off, his strength increased, while the peripneumony began to throw itself off by expectoration. On purpose, he owns he kept the patient longer than was necessary, in the Infirmary, that the Doctors and Students, *confirmatae ejus pancreaticae sanitatis testes existerent.* *Quantine faciendus, in Medicina Sydenhamus!*

He says, he saw cases of the *Miliaria vera*, which begin with a rheumatic fever, on the 4, 5, 6, 7, and 8th day. Some had eruptions on the chin, neck, breast, arms, and thighs. These lay in the common ward with patients of all diseases, breathing the same air, and laying under the same number of blankets. After three or four weeks, *omnes adepti sunt sanitatem.*—Bolder by experience, he treated a patient labouring of a putrid fever, and covered over with *petechiae*, just as he did patients in common; he took him out of bed every day, he drenched him with diluents acidulated with spirit of sulphur. In the space of eight days, he was free from eruptions, and fever. “Sic sen-
“sim jugum quod humeris meis publicus cla-
“mor imposuerat excutere volui, debui. Vi-
“deram in *Belgio foederato* practicos annosiores,
“qui

“ qui monita Sydenhami ac Boerhaavii, in *Vario-*
“ *lis*, *Morbillis*, *Miliaribus*, *Petechiis*, *Scarlati-*
“ *nis* aspernati, horum morborum in curatione
“ admodum infortunati essent: videram alios qui
“ Boerhaaviana schola enutriti, Magistrisque ves-
“ tigiis presse inherentes, horam curam felici-
“ ter ederent. Recordabar et me Sydenhami ac
“ Boerhaavii vestigia prementem, hos eosdem
“ morbos summo cum famae ac honoris in-
“ cremento, caeteris, qui alias longa semitas
“ calcarent reclamantibus, feliciter curasse. Hinc
“ audacter varios clamores flocci faciens, con-
“ cludere debui, tam felicem esse horum mor-
“ borum curam in aere *Austriaco*, quam sua-
“ dente Sydenhamo in *Britannico*, quam sua-
“ dente Boerhaavo in *Belgico* fuisse constat.”

CHAP. III.

Of EXERCISE.

*Exercise
necessary.*

THE body of man is made up of a bundle of tubes and glands fitted to one another in so wonderful a manner, that there must be frequent motions, concussions, and agitations to mix, digest, and separate the juices, to cleanse the infinitude of pipes and strainers, and to give the solids a firm and lasting tone. Exercise ferments the humors, forces them into their proper channels, throws off redundancies, and helps nature in those distributions which are necessary for life.

*That
which
agrees best.*

1. In general, that sort of exercise is best to which one has been accustomed, which best agrees, and in which people take delight.

*On an
empty sto-
mach.*

2. Exercise is best when the stomach is most empty. It is to be estimated by the constitution. When the patient begins to sweat, grow weary, or short breathed, he should forbear, till he recovers. For the delicate and infirm, that sort of exercise is most proper which is performed by external help, gestation in wheel carriages, horse-litters, sedan-chairs, sailing &c. Julius Caesar was of a weak delicate constitution by nature, which he hardened by exercise. Plutarch says, he turned his very repose into action.

*Riding on
horseback.*

3. For such as are neither robust nor very tender, that sort of exercise is best which is performed partly by ourselves, partly by foreign assistance. Of this sort, *riding on horseback* is the foremost, for the benefits of which I beg leave to refer the reader to the judicious Sydenham and to Fuller.

By riding the pendulous viscera are shaken, and gently rubbed against the surfaces of each other; mean while the external air rushes forcibly into the lungs. These conspiring produce surprising changes. Sydenham had such an opinion of *Riding*, that he believed not only lesser evils could be cured by it, but even the *Consumption* in its last stage. In this disease, he says, *Riding* is a specific as certain as mercury in the *Lues*, or bark in an *Ague*. But he cautions phthisics never to fatigue themselves by it. On this head he produces many instances of recovery. In long journies, concussions often repeated have expelled obstructions which the waters had begun to dislodge.—Those invalids who ride out in the summer, in the heat of the day, act irrationally. I would advise them to go to bed early, so that they may get up early, and ride before breakfast, and in the evening. In *Italy*, it is a common observation, that none but Englishmen and dogs are to be seen in the streets in the forenoon, *Cane et Inglesi*.

4. After exercise the body should be well rubbed, then dry linnen should be put on well aired. *Linnen to be changed.*

5. After exercise, every man ought to rest before he sits down to dinner. Cold small liquors, after exercise, are pernicious. *Cold liquors dangerous.*

6. EVERY author who has wrote well on the *Non-Naturals* in general, has copied from the divine old man. To Hippocrates are we indebted for most of the foregoing. We now proceed to enumerate some of his particular observations, to which we may add those of others, who have not copied from him. *Hippocrates the best writer.*

7. Complaints which arise from immoderate labour are cured by rest, and c. c.

8. If

*Laziness
hurtful.*

8. If the body, or any of its members rest longer than usual, it will not become the stronger. If, e. c. after a long habit of idleness, one enters immediately on hard labour, he will surely do himself hurt.

*Custom to
be studied.*

9. A soft bed is as irksome to him who is accustomed to a hard one, as a hard bed is to him who lies at home upon down.

10. Those who seldom use motion, are wearied with the smallest exercise, and e. c.

Friction.

11. Friction is a sort of succedaneum to exercise. Experience dictates this to *Jockies*.

Friction is an alternate pressure and relaxation of the vessels. Gentle friction presses the veins only, harder the arteries. By pressing the veins the motion of the blood is accelerated towards the heart; thus the actions of the heart are excited, the blood moves through the vessels. Vital power may be increased by friction alone to any degree. In the coldest hydropic, a fever may be thus raised. In bodies where none of the chylopoetic viscera perform their offices, wonderful effects may be produced by rubbing the belly with coarse woollen clothes. Thus have dropsies been cured. For prevention and cure the ancients used frictions. Let a horse stand unrubbed for a few days, he becomes useless. Let him be well curry-combed, he may continue nimble for years. Columella strongly recommends this practice of currying in his *Re Rustica*, he says, *sæpe plus prodest pressa manu subegisse terga, quam si largissime cibos praebeas*.

Frictions may be used for different purposes. Hence it was that Hippocrates (*De Medici officio*) says *Frictio potest solvere, ligare, carne implere, minuere, dura ligare, mollia solvere, moderata densare*. The fibres may be relaxed by rubbing

bing with oils. They may be braced by the use of gums, spirits, &c.

12. Reading aloud and singing warms the *Reading* body. Hence it is, that Dr. Andry thinks the *and sing-* reason why women stand not so much in need *ing.* of exercise, because they are more talkative than the men.

13. The inconveniencies which arise from *Immode-* excess of exercise, are heat in the belly, pain, *rate exer-* loathing of food, looseness, costiveness. In such *cise hurt-* cases, less exercise, warm bathing, sleep, cool- *ful.* ing, moistening, and nourishing diet, with a cheerful glass, are recommended.

Galen condemns those who recommend exercise promiscuously. I have known some men (says he) who, if they abstained three days from exercise, were sure to be ill. Others, I knew, who enjoyed a good state of health, though they used little or none.

1. "Primigenes of *Mitylene* was obliged to go *Caster.*
 "into a warm bath every day, otherwise he was
 "seized with a fever. Effects we learn from
 "experience, but the causes of those effects we
 "learn from reason, or reflection. Why did
 "Primigenes require such frequent bathing?
 "By the burning heat of his skin, I found that
 "he wanted a free perspiration: I therefore
 "ordered him a warm bath to soften his skin,
 "and open his pores."

2. "I knew another man whose temperament
 "was equally hot, but he did not require such fre-
 "quent bathing, because his calling obliged him
 "to walk much about the city; he was moreover
 "of a quarrelsome disposition; by fighting he
 "kept himself almost in a constant sweat."

3. "A third I used to restrain from exercise,
 "because he used it to excess.—I have, e. c.
 "cured several of cold temperaments by rousing
 "them

“ them from lazy lives, and persuading them to
“ labour.”

*Exercise
dangerous
in cachec-
tic cases.*

Exercise is not to be enjoined to patients when they are very ill. It were dangerous thus to jumble stagnating corrupted humors. Such mixtures stuff the lungs, not without danger of suffocation. Thus, we see cachectics, or leucophlegmatics pant for breath in mounting one flight of stairs. In such cases, gentle frictions are only rational at first, then airing in a chair, riding, walking, and at last running.

Case.

Medical justice obliges me to mention one flagrant proof of the doctrine, consistent with my own knowlege. “ Not many summers past, a
“ gentleman put himself under my care at
“ Bristol Hot-wells. By jollity and good fel-
“ lowship he had almost got the better of one
“ of the best constitutions: His case, however,
“ was far from being desperate. My principal
“ injunctions were Bristol-water, sobriety, and
“ repose. For some weeks, he seemed to gain
“ ground. By riding in the heat of the day,
“ and by living too freely, he was taken with a
“ cough, and loss of appetite. He was bled,
“ and slept soundly through the night. Next
“ day I called with an intention to repeat the
“ bleeding. The bird was flown; my patient
“ was officiously advised to Bath. By procrast-
“ tinations, and unseasonable journies, the in-
“ flammation of his lungs waxed worse; the
“ season for evacuation was lost. He became ca-
“ chectic, and short-breathed; his legs swelled.
“ He had before been subject to the gout;
“ these symptoms were therefore deemed gouty.
“ Bath-water and exercise were unmercifully
“ pursued. After every airing, he panted for
“ breath, and seemed ready to expire. Nor
“ was it any wonder; for, at that very time,
“ *baerebat*

"*haerebat lateri lethalis arundo. A vomica pul-*
 " *monum* soon burst, and suffocated the gouty
 " man."

14. LET us now see what *Statical Experiments* *Statical*
 have discovered. *experi-*
ments.

By moderate exercise the body becomes lighter, and more lively.—The body perspires more when it lies quiet in bed, than when it tosses and tumbles. If, after supper, one lies ten hours in bed, he will perspire freely all the time; but if he lies longer, both the sensible evacuations, and the insensible perspiration will be diminished.—Violent exercise of body or mind brings on early age and premature death.—Riding on horseback increases the perspiration of the parts above the waist.—An easy pace is much more wholesome than a hard one. But to the infirm who are fatigued by it, an easy carriage is preferable, because their strength should be recruited not exhausted.—Moderate dancing promotes perspiration, and is a wholesome exercise. When the perspiration is defective, the remedy is exercise. Dr. Arbuthnot recommends exercise from the common observation that the parts of the body which labour most are larger and stronger. Thus, the legs and feet of chairmen, the arms and hands of watermen and sailors, the backs and shoulders of porters, the limbs of running-footmen, by long use, grow strong, thick, and active.

15. From physiology, we learn that (in the *Sloth, its*
 space of eight hours) the chyle assimilates itself *effects.*
 with our humors, so as to be no longer distinguishable. But, in those who never behold the rising sun, or who loiter away their lives in sloth, muscular motion languishes; the chyle is neither assimilated so quickly, nor so perfectly. Cachexy becomes a necessary consequence of vitiated humors. Experience proves the text.—

Let the best *bunter* stand idle in the stall, he will soon plump up; but he will every day become more and more unfit for the field.—Of *twins*, let one apply himself to study; let the other inure his body to hunting, riding, and warlike exercises. The former enjoys the health of a green sick girl. The latter strings his nerves by labour.—The weary labourer makes a happy meal on brown bread, bacon and sprouts. After sound sleep, he rises stout and ready for the next days labour. The rich, who cram themselves with dainties, dun their physicians ears with complaints. They would enjoy health, while they do nothing to preserve it. Those who wear out their minds, while they save their bodies, grow pale by study, and die cachectic.

“ Illi vero qui divitiis affluentes, largis quotidie
 “ fruuntur epulis, nec se ac labores credunt na-
 “ tos, perpetuis querelis Medicorum aures fa-
 “ tignant, dum volunt viveri fani, et nihil agere.
 “ Literati, qui mentem acriter exercent, cor-
 “ pus vero minime, impallescent libris, cachec-
 “ tici fiunt, says Boerhaave, in his *Academical*
 “ *prælectiones*.”—The *Curate* who serves two or
 three churches on Sunday, and lives as he can
 the rest of the week, is as hardy as the *Sexton*.
 Let the *Curate* become a *Dignitary*, he serves his
 churches by curates, lives at public places, and
 frets at the common dispensations of providence.
 — From no cause can health suffer more surely,
 or more quickly, than by exchanging a life of
 exercise for a life of ease. Well might Aretæus
 therefore rank (among the causes of Cachexy)
ab exercitationibus quies, & ab ingentibus
laboribus otium. Well might Hippocrates (in his
Vitus ratio sanorum) say, *Otium humectat, & cor-*
pus reddit debile, Labor siccant, & corpus robustum
efficit.

Baccius

Baccius (*De Thermis*, pag. 378) draws a parallel between the active lives of the antients, and the slothful lives of the moderns, with their consequences. How patly does the picture suit the manners and principles of our times! — “*Illo-
rum temporum vita assiduis dedita exercitiis,
sanitatem conservabat, & promptiores redde-
bat vires ad singula tam animi quam corporis
munera. E. c. hodie, in continuo otio degi-
tur. Principes maxime qui, ob decorum, ac
amplissimi ordinis majestatem, semotam a
communi consuetudine degent vitam, aut cu-
ris animi gravibus jugiter tenentur, aut si ad
ludicra aliqui transire soleant, ea inertia sunt,
tabellæ, aleæ, trochi novus modus super mensam
agitati : in quo vitæ genere tandem ob defi-
diam, & anxietatem totam brevi pervertere
coguntur temperiem. Unde, non mirum est,
qui præproperam accelerant sanectutem, in-
currentque facile in morbos renales, aut in poda-
gram, aut in hæmicraniam, aliosque id genus
affectus, medioque veluti cursu deficient.*”

Heroes accustomed to daily exercise, acquired health, and strength to undergo the offices of body and mind. Men, now, e. c. live in one round of sloth. Great men who, by their rank, are exempted from the common employment of life, are either continually tormented with carking cares, or, if they apply themselves to amusements, these are inactive, Cards, Dice, Rowly-powly, or EO. In this way of life, at length, they habitually spend their whole time. Can we then wonder that those who, thus, anticipate old-age, should fall into stone, gravel, gout, palsy, apoplexy, or other such diseases? Can we wonder to see such snatched off before they have run the half of their race?

C H A P. IV.

Of S L E E P.

Sleep.

SLEEP AND WAKEFULNESS bear a great affinity to exercise and rest. Different constitutions require different measures of sleep.

Moderate.

1. Moderate sleep increases perspiration, promotes digestion, cherishes the body, and exhilarates the mind.

Quiet.

2. Wakeful people should, nevertheless, keep in bed, quiet and warm, which will, in some measure, answer the purpose of sleep.

Excessive sleep.

3. Excessive sleep renders the body heavy and inactive, impairs the memory, and stupifies the senses.

Wakefulness.

4. Excessive wakefulness dissipates the strength, produces fevers, and wastes the body.

Unseasonable sleep.

5. He who sleeps through the day, and wakes through the night, inverts the order of nature, and anticipates old age.

6. Sleep after dinner is a bad custom. A late heavy supper is an enemy to sleep. Going to bed without any supper, prevents sleep.

Statical proofs.

7. By *Statical Experiments* we know that sound sleep is refreshing. — That nocturnal perspiration arises in this climate to about sixteen ounces. — That after a good night's sleep, the body feels lighter from the increase of strength, as well as from the quantity of matter which it has thrown off by perspiration. — That restless nights diminish perspiration. — That perspiration is more obstructed by a cool southerly air when asleep, than by intense cold when awake.

— That

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—That change of bed diminishes perspiration ; for things to which we are not accustomed, though better in their nature, seldom agree with us.—That stretching and yawning promote perspiration.—That perspiration is more obstructed by throwing off the blankets when we sleep, than by throwing off the cloaths when awake.—That wine moderately drank induces sleep, and increaseth perspiration. — That drank to excess it lessens both.

C H A P. V.

Of EVACUATION.

Preface.

DIODORUS SICULUS (*Bibl. Hist. lib. i. p. 92. Edit. Westling.*) informs us that the Aegyptian physicians were maintained at the public expence, and obliged, by the laws, to conform their practice to rules recorded by authority. To prevent distempers (says he) they prescribed *glysters, purges, vomits, or fasting*, every second, third, or fourth day. Herodotus informs us, that the Aegyptians vomit and purge thrice every month, with a view to preserve health, which, in their opinion, is chiefly injured by superfluity of aliment, *Euterpe, sect. 77.*

At water-drinking places the word *preparation* fills the mouth of every babbler. Some are over-prepared before they come. Others prepare themselves. Bleeding, purging, and vomitting, are edged-tools brandished by many who know nothing of their propriety or impropriety. As at the beginning, so, at the end of my work, it is my purpose to deal honestly with mankind in general, with patients as well as practitioners. I therefore proceed to point out the uses and abuses of *Evacuation*

The singular circumstances of preparation are various and inexplicable. There are three common indications. 1. The first is extrinsic, the virtue and administration of the Bath. 2. The Disease, and 3. The passages through which nature and the bath are to eliminate the disease. Baths, like other medicines, sometimes require a curb, sometimes a spur. If the body happens

to

to be extenuated, it is to be prepared for the Bath by restoratives. In the administration of Baths, regard must be paid to age, sex, constitution, habit, and disease. Hot temperaments are to be cooled, cold are to be heated; gross viscid humors are to be attenuated, and thin are to be thickened. Superfluous humors are to be drained off by the most convenient outlets, and, as much as can be, by the parts affected. This is Galen's doctrine, in his book *De Constitutione Medicinæ*. The Disease points forth the different sorts of evacuations. If there is a superabundance of humors, bleeding is the evacuation. If the stomach happens to be loaded with tough phlegm, nausea, and reaching, *vomitum vomitu tollatur*. If the bowels are distended with acrid corrosive humors, purgation is the preparation. In complicated affections, the most urgent symptoms are to be attended to, *cæteris haud neglectis*. *Per contraria omnem præparandi rationem aquae lance compenset, præsentia ordinet, et futura moderetur. Balnea administrentur, dibite, tempestive, et cum debita ratione.*

I. Of BLEEDING.

I. GREAT are the advantages produced by a *Bleeding* seasonable use of the *Lancet*. Unseasonable *its dangers* bleeding is productive of irreparable calamities. One may venture to affirm that full as many of *His most Christian Majesty's* subjects fall by the lancet, as by the sword. The French Physicians are, generally speaking, thoroughly ignorant of the rationality of physic. The soberest people in the world are doctored in the antiphlogistic regimen, a regimen calculated only for the carnivorous, the lazy, and the drunken. Following the physician of the *Hotel-Dieu*, one

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day in his rounds, we met a patient just carried in. The doctor demanded of the porters, *Qua-t-il?* one of them answered, *La fièvre. A-t-il saignée? Oui Monsieur, dix fois. Diable! Dix fois, et pas encore guerit. Saigné le encore.* All this without touching his pulse, or asking one other question. The wretch was bled, and expired before his arm could be tied up.

French ignorant of theory.

2. Of all nations, French surgeons are, in general, the most dexterous operators, dressers, and dissectors.

Foreigners resort to *Paris*, after they have completed the study of *Physic*, to improve themselves in anatomy, language, &c. Students of all nations have free access to their hospitals. There we used to profit by the abuse of practice. The surgeon of the *Charité* was, one day, dressing a man's stump, which looked black, and dry without the least appearance of digestion. The dressings were changed, but to no purpose. Talking in English with a fellow student, I offered to lay the expence of that evening's collation, that the patient died in three or four days. After dinner, the surgeon, my landlord, came into my apartment, and after some general conversation, told me that a certain person, who overheard me, had informed him of a particular wager of mine. He begged to know the reason of my prognostic. Not expecting a question of this sort, I coloured up to the ears. Soon he politely relieved me from my embarrassment, insisting on an explanation. I frankly told him that I believed the untoward appearances were owing to too great evacuation, and too maigre a diet. Confessing his ignorance in theory, he ordered the poor man *soupe gras*, a little meat and wine. A laudable pus ensued, and the wound soon skinned over.

Mr.

Mr. Thomas, Surgeon of the naval hospital in *India*, assured me that, in Admiral Pocock's first engagement with the French, the British wounded who were brought ashore, recovered to a man, while the French wounded who were carried into *Pondicherry* all died. The surgeon of the *Bridgewater* ship of war was then a prisoner in that fort, and was witness to the fact, nay the French own the secret, and still continue to be surprised at the consequences of their own mal-practice.—Mr. Morgan, Surgeon of a regiment at *Guardaloupe*, assures me that *bleeding* is the universal remedy among the French practitioners in that island. In *intermittent fevers* particularly, they bleed five or six times, and always in the cold fit. Many of our officers and private men have thus expired, before their arms could be bound up. Moliere's raillery has improved the French practice not a little.

3. Our best surgeons surpass the French in *Common* learning. We have philosophers as well as *bleeders* operators. I know not a few whose medical visits I *ignorant.* would accept in cases the most dangerous. My present cautions concern mere surgeons only, my aim is to guard patients against the lancets of those who, by their general manner of education, can be no better judges of the propriety of bleeding than the patients themselves.

“ Sydenham attended a lady of a delicate *Example* constitution, who (by violent floodings after *fatal.* child-birth) fell into convulsions. He prescribed food of easy digestion, and trusted to time for a cure. He visited her daily, and saw his prognostic verified by the mitigation of the symptoms. Her nurse mistaking honesty for ignorance, and wondering that he never wrote, privily introduced a surgeon who made use of the common instrument for
“ pro-

“ promoting the *Lochia*, the lancet. Her convulsions returned, she died. The Doctor, calling at his usual hour, found her husband in tears. Surprized, he demanded the reason. The maid answered and said, Sir, my lady is dead. Then she must have been bled, replied the Doctor, rushing into the bed-chamber. He examined both arms; no print of a lancet. He then examined her ankle. There he found the fatal mark. Provoked at the disappointment, he bluntly told the husband, whom he met on the stairs, Sir, they have killed your wife.”—From the untimely fate of this lady, he warns physicians to order innocent nothings to amuse meddling gossips, and divert them from quacking under hand.

Vulgar error.

4. Let a person faint away, the nearest surgeon is immediately summoned. To please a crowd of frightened by-standers, he is obliged to bleed, people of whose constitutions, and disorders he is thoroughly ignorant of. The public rooms are crowded with hundreds of people, some well, others labouring of inveterate ailments. Animal effluvia are exalted by the addition of smoke, sulphur, wax, and tallow. The external air is lifted out at every chink. Is it any wonder that weak enervated people should be overcome by such air? Many such have I seen hurried into another room; two or three surgeons have been summoned. Sometimes I have had the good fortune to relieve patients of my own from impending fate, sometimes those of others.

Examples.

a. Many may remember the fate of Mrs. S——r. Playing at *Quadrille*, she had the good fortune to win a *sans-prendre*. Transported with joy, she fell first into a laughing fit, and then into

into an hyfteric. By the advice of an eminent furgeon of London then in the room, ſhe was bled; convulſions enſued, and ſhe expired. Nor was the conſequence wonderful; ſhe was a woman of a weakly conſtitution, pale complexion, and ſubject to an habitual lax of three years ſtanding.

β. Captain Roper was one night hauled into an outer-room in a fainting fit, and a furgeon was called. I ordered the waiter to call his phyſician Dr. Oliver, who ſaved his patient with hartſhorn, and thanked me. The gentleman then laboured of an incurable jaundice, dropſy, and univerſal cachexy.

γ. Mr. Cruikſhanks was a patient of mine. His caſe is already related under the head of the *Colica Piſtonum*. Mal-treated by a German empiric, his conſtitution was ſhattered. He was frequently taken with fainting fits, in the rooms; and, as often, furgeons were ſummoned. I gave the waiters a general charge to carry him into the air in an open chair, which conſtantly recovered him.

δ. Many may remember the caſe of Mr. S——n, a gentleman of the north. While he held the cards in his hands, he was almoſt every night, taken with a ſlight epileptic fit. I almoſt affronted a *Right-Reverend* by oppoſing his being bled. I offered the ſimpleſt reaſon that I could ſuggeſt, viz. That his fit ſeemed only to be the ſymptom of a diſeaſe which aroſe from poverty of blood. I gave him a glaſs of cold water with ſpirit of hartſhorn. In an inſtant he recovered, begged of the company, that they would not be alarmed on his account, took up his cards, and played on.

ε. The Surgeons were ſo often ſummoned on Mr. Naſb's account, that at length they made
no

no haste. Was it any wonder that the blood should now and then be interrupted in vessels which had lasted for fourscore years and upwards? To drive away care he latterly indulged himself in drams, which alarmed people by bringing on drunkenness, or a temporary apoplexy.

Cautions.

4. Surgeons may boldly venture on the sanguine, robust, and plethoric. But, in public places, they need not in general be alarmed; the faintings of invalids may wait till their physicians are called. Female faintings rarely require bleeding.

The patients who resort to Bath-waters labour generally of stomach disorders, gout, rheumatism, or palsy; these are seldom attended with fever. In other respects, they are what they call hearty. Such generally admit of evacuations.

Those who resort to Bristol-waters are, for the most part, emaciated, phlegmatic, hectic, pale, lax, and weak. Bleeding, in general, increases such disorders.

Suffice here in general to observe, that in *Consumptions* attended with inflammation, bleeding not only abates that, but, by drawing off the diseased juices, makes room for sounder. But, in consumptions glandular or pituitous, every lancet is a dagger. If, on trial, the pulse grows quicker, more contracted or thready; if the blood appears looser in texture, no benefit is to be expected from bleeding. If, in such circumstances, a vein is opened, colliquation, coldness, depression, and irrecoverable weakness ensue. The assimilating powers are low; there often remains no more than what is barely sufficient to maintain the vital flame. When the circulation comes to be confined within a narrow

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narrow compass, patients feel themselves as it were smothered. Bed-curtains and windows are thrown open for air. Air aggravates, while it seems to relieve. In such cases, it is hard to resist the importunities of the sick; I have ordered little bleedings which gave ease, and, as I fancied, hastened the poor creatures to their journey's end. Anxious to relieve, I have taken away blood which vainly I wished to restore. The symptoms which, in consumptions, call for bleeding require the nicest judgment. How precarious then must be the fate of those who come to *St. Vincent's Well* armed with general directions, or consigned to the care of men, who, by their manner of education, can be no judges of pulses!

Fine bleeders are as dangerous as *monkeys in china-shops*. Many are the fatal instances which I could produce. Patients, when they begin to drink the Bristol waters, complain of slight head-aches, and other symptoms which (by intermitting the waters) generally cease. In the eyes of ignorants all head-aches are alike. Hysteries and apoplexies are treated alike,—“ I remember the case of a young lady *Examples:*
 “ who came to the Wells for a weakness, which
 “ was thoroughly removed. Her disorder re-
 “ turned; next summer she came back. By my
 “ advice she began the waters, they agreed very
 “ well with her. Meeting accidentally with an
 “ eminent surgeon, she complained of a little
 “ head-ach. *Pray, madam, give me leave to bleed*
 “ *you, I would not by any means, advise you to con-*
 “ *tinue the waters.* She was bled, and left off
 “ the waters. Her weakness returned with vio-
 “ lence, with the addition of a racking pain of
 “ the back, and hysteric fits. Her friends were
 “ alarmed, I was sent for in a hurry. Surpriz-
 “ ed

ed at so unexpected a change, I enquired whether or no she had been bled. Looking round the room, I spied the basin. Her blood was thin as water. I frankly told her, *Madam, your present symptoms are the effects of unseasonable bleeding, your friend the surgeon has dealed double destruction, first by his lancet, and then by forbidding waters, in your case, specific. You will be sufficiently punished for your imprudence by a longer stay, and by swallowing medicines which, otherwise, I should not have ordered.* By art, perseverance, and the waters she was cured."

"George Whatley, Esquire, lived at *Marseilles* for many years. By inclination as well as example he led a sober life. He came to *Bath* for amusement. He drank the water wantonly for four or five months. I often told him that he was playing with edge-tools, I asked him if he had any title to the *Gout* by inheritance. Scorning the admonition, he persisted. One night he was pained in both feet, with some degree of inflammation. I wished him joy of the *Gout*. Warm cordials, sinapisms, and other common means were used to produce a greater derivation of gouty matter to the extremities, I made him hobble about the room. But, in spite of art, the inflammation returned, and fixed on the viscera, in the shape of grumblings, flatulents, and belchings. His brain was slightly affected also, with excess of spirits. By the methods above mentioned the morbid matter was again driven to the feet; the head and bowels were relieved. But the gouty matter could not be confined to the feet above four hours. I advised him to continue the use of the water; no true fit could be fixed,

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“ the gouty appearance was mechanically produced by the power of Bath water; he naturally had no gross humors.

“ Impatient of a round of unavailing pains, he desired me to call in that physician who had chiefly suffered himself by the gout. Dr. Oliver was accordingly sent for, who counsell’d the same regimen. Finding little alteration, he would have some physician who might strike a bold stroke, as he called it, mean time proposing Dr. Frewen. Knowing this gentleman’s particular practice in this disease, and dreading the effects in the present case, I told him I had no objection, provided he could withstand bleeding, which I knew the old man would instantly propose. This he undertook to do; the Doctor came. Retiring to the parlour, I recounted the patient’s constitution, way of life, symptoms, &c. I told him particularly, that he had no title to gout by inheritance. Snatching up the pen, the first thing he proposed was to take away ten ounces of blood, which I objected to, alluding my fear. Thinking, however, that I could depend on the patient’s resolution, I consented, and left the Doctor and him together. When I returned in the evening, I found the blood taken away, and all my fears verified to a tittle. This bold stroke removing that pain which I had endeavoured to increase. The disorders of his head and bowels were increased, with an additional tremor of the nerves, sweating, and weakness of the ankles. His high spirits were exchanged for despondency, peevishness, and repentance. Damning the profession, he dismissed us all. By two months perseverance in large draughts of water, which had, mechanically, produced the disease, he was restored to pristine health.”

The

The liberty which I now take proceeds from medical justice, and no other motive. The *laudentia* of the art are no less instructing than the *juvantia*. Were physicians as ready to record their blunders as their great cures, the healing art could not have continued that guess-trade that it now is. For the sake of patients yet unborn, I make the dead useful in their graves. Dr. Frewen had natural talents sufficient to have made him a second Hippocrates. But the truth is, his mind had been wedded to particular doctrines, before the study of physic was purified from its scholastic rust. To these he continued obstinate: he hated all reformers, Boerhaave in particular, because he was the prince. One black purge turned the stomachs of his patients for forty years. His long practice neither corrects nor improves posterity.—De Haen honestly gives us an express chapter *De Infortuniis nostris*. After rebuking vain dogmatic practitioners, he thus concludes. *Sed praestat ab erroribus remotiorem fieri, ac veritati proximiorum; sic propius ad felicitatem aeternam accedimus.*

5. To enumerate every circumstance in which *Bleeding* were hurtful, would swell my work to too great a size. Physicians I pretend not to instruct. My purpose is to guard patients against the lancets of those who, by their manner of education, can be no better judges of the propriety or impropriety than themselves. In acute diseases, it is commonly believed that the blood loses its phlogistic nature after the fourth day; in malignant putrid diseases, it is taken for granted that the blood is always dissolved. To convince those who bleed that bleeding is not so well understood as is commonly imagined, I refer to some experiments made by De Haen on the human blood, page 193, 342, &c.

The

The vulgar method of judging of blood is by ^{Judging} its crust. The crust depends on the nature ^{of blood by} of the vessel in which it is received. Let blood be ^{the crust} received into a flat broad vessel, it forms little or no crust. Let it be received into a narrow deep vessel, the crust appears thick, sily, and inflammatory. Let blood fall directly into a basin, it generally puts on a white inflammatory crust. Let the most inflammatory blood be squeezed out of the orifice, or trickle down the arm, it puts on no white inflammatory crust.—In acute diseases, he found a deep inflammatory crust, in many instances, long after the fourth day. In a young woman labouring of a continual putrid fever, full of spots, where nothing had been done, our author found the blood drawn on the eleventh day, covered with a phlogistic crust, and compact in the red part. The blood that was drawn on the twelfth day was still more compact, and more incruited. Crudity of humours is not to be estimated by time, but by the condition of the blood. Boerhaave's texts are therefore to be considered, *cum grano salis*. Sickness and dissolution of blood depend on causes which puzzle the most intelligent.

Dr. Hugh Smith lately published an ingenious treatise on the subject of *Blood-letting*.

II. Of PURGING.

§. I. MEDICINES, if they do not good, certainly do harm. Hippocrates observes, "That ^{Purging} it is dangerous suddenly to alter settled ha- ^{natural} ^{astray}bits; or, to fly from one extreme to another."

Semel multum aut repente vel evacuare, vel calefacere, vel refrigerare, aut alio quocvis modo movere

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peri-

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periculosum. Celsus damns the custom of frequent purgation. *Sed purgationes quoque, ut interdum necessariae, sic, ubi frequentur, periculum afferunt.* *Assuescit enim non ali corpus, et, ob hoc infirmum erit.* Lib. i. cap. 3. p. 31. This we see every day verified in those who, solicitous about the prevention of diseases, consume their present stock of health in *quacking*, as Celsus elegantly expresses it, *In secunda valetudine, adversae praesidia consumunt.* Certain it is, that nature may be so far misled, that the body may forget the calls of nature. Evacuations give rise to cachexies, or bring the best constitutions to be susceptible of every trifling liberty. Let the young fox-hunter accompany his wife to any public place; for want of employment he drinks waters of which he has no need. If they heat, he bleeds; if they bind, he makes one meal of *manna* and *salts*; if they purge, his shelves are loaded with astringents. Nature thus misled, he becomes a patient indeed, the small pipes collapse, the conduits of life dry up; laziness and quacking turn slight symptoms into incurable disorders; he who might have prolonged his life, by exercise, to fourscore, dies an old man, by quacking, at forty.

*Purging
weakens
nature.*

§. II. PURGING withdraws that matter which nature endeavours to fix on the extremities, and fixes it on the viscera. The patient exchanges *pain*, that necessary instrument of nature, for *sickness, nausea, gripings, faintings*, and a numerous train of irregular symptoms. Sydenham assures us, that he learned, at his own peril, as well as that of others, that *Purgatives* exhibited in the fit, in the declension, or in the interval of the gout, have hastened those evils which they were

were intended to prevent. Purges, as they rob the blood of its spirituous part, so they weaken concoction, they deceive the sick with fruitless hopes, and bring on lasting mischiefs which nature undisturbed would have subdued. Gouty people are easily disturbed by any cause that agitates the body, or mind. For this reason, the Gout follows the slightest evacuation.

α. " Not long ago, Bath knew a practitioner *Cases*
 " who, scorning Sydenham and all his cautions,
 " had no notion of being confined by the gout,
 " or any disease which purges could carry off.
 " This man was a true believer, he took the
 " same measure to himself that he gave to others.
 " Whenever he was attacked with the gout he
 " took his purges, and was about again in a
 " few days. Nature thus debilitated, the
 " gouty matter fell at last on his lungs, and
 " killed him."

β. " A gentleman of *Essex*, now of Bath, had,
 " for many years, been subject to violent pa-
 " roxysms of the gout. In one of these, wish-
 " ing for relief or death, he applied to the for-
 " mer, who purged him every four hours with
 " *Gum Guaiac* draughts, to the amount of 200
 " stools in ten days. He hobbled into the cof-
 " fee-house, and sounded this doctor's praise.
 " But, the consequence was, his fits return of-
 " tener, and with greater severity. He now
 " curses his own imprudence, and the doctor's
 " memory."

γ. " Peregrine Palmer, Esq. Representative
 " in Parliament for the University of Oxford,
 " was known for an obstinate lameness, as well
 " as for that integrity of heart, and politeness
 " of manners which distinguished his character.
 " From his parents he inherited the gout, and
 " had

“ had his fits early in life. When he seemed to
 “ be threatened with a fit, and wanted to in-
 “ dulse any youthful pursuit, he told me, he
 “ used to avert it by purging, a folly to which
 “ he imputed his lameness, and which he re-
 “ quested me to publish, as a memento to his
 “ gouty brethren.”

*Different
 purges ne-
 cessary.*

§. III. DIFFERENT DISEASES, ages, consti-
 tutions and sexes require different purges.

Refinous, mercurial or rough purges, cause
 heat, and hinder the passing of the waters by
 reason of that stricture which purgatives of all
 sorts leave behind. They destroy the tone also
 of the stomach and intestines.

Where the guts are clogged with viscid
 phlegm, mineral waters purge at first, even
 those which are astringent, particularly if they
 are drank in large quantities and quick.

For the purposes of opening the mouths of
 the bibulous vessels, and thereby giving access
 to medicated fluids, what can be so natural as
 salts extracted from waters themselves?

Epsom-salt, or *Sal Catharticum amarum* is pre-
 pared from bittern, and is now common. Dr.
 Hoy was the first who discovered the way of pre-
 paring it (vide *Philos. Transact.* No. 378, &c.)
 For purifying and imitating it, see *Histoire de
 l'Academ. Ann.* 1718. p. 38, &c.

Glauber's Salt is an artificial composition, an
 union of the vitriolic acid with the mineral alka-
 li, or basis of sea-salt. It has some resemblance
 with that of Epsom, and proves when the point
 of saturation is exactly hit, a salt of a neutral
 nature, of a bitter taste, and a purgative virtue.
 Artificial salts require four times their weight of
 water to dissolve them. Natural salts dissolve in
 about an equal quantity of water.

Rochelle

Rochelle salt, or *Regenerated Tartar*, has a more agreeable taste, and a gentler purgative virtue than either of the former.

Magnesia Alba, or white *Manganese*, is that alkaline matter obtained by evaporating and calcining the remains of the mother liquor left in refining *Salt Petre*, which will not shoot into salt. This white *Manganese* is an agreeable gentle purgative, particularly proper in habits naturally costive, and hypochondriac disorders. Its purgative quality seems to proceed from its alkaline earthy matter dissolved by the sharpness of the juices in the first passages. The universal acid of the waters converts this medicine into a neutral salt, which exerts its purging quality on the same principles by which the Epsom salts are known to act. Hoffman, Stahl, and all the best foreign mineral water doctors recommend the four for quickening the effects of the waters, so as to render them more deobstruent, deterfive, and purgative.

III. Of Vomiting.

§. I. IN the action of *Vomiting*, the diaphragm *Vomiting*, is suddenly and violently drawn downwards, *its operation* while the abdominal muscles contracted also, *on*, press the contents of the lower belly. Thus the stomach is squeezed, as it were, between two presses. As the nerves distributed to the stomach, intestines, and mesentery have such power over the rest of the nerves of the body, we need not wonder that convulsions should be excited in the muscles of the face, oesophagus, intestines, &c. In the action of vomiting, the venous blood is driven violently towards the right side of the heart, while those arteries which

are dispersed over the abdominal viscera are compressed. Thus, the impetus of the arterial blood is forced upwards, while the right side of the heart is hindered from emptying itself into the vessels of the lungs, respiration being stopped in the act of vomiting; hence the return of the venous blood from the head is prevented. The vessels of the head are in danger from turgescency, or extravasation; for, in violent straining, the face reddens, the eyes weep, the jugular veins swell, the eyes sparkle with fire, the ears tingle, and the head becomes giddy.

Dangers.

In the action of vomiting, the venous blood rushes through the Vena-portarum into the liver. If the liver or lungs happen to be vitiated, ruptures, and other fatal consequences may ensue.

Cases.

Boerhaave (in his academical prelections) says he saw a woman who labouring under an inveterate jaundice, by taking a vomit, fell into a superpurgation of putrid matter first, and then of pure blood, which carried her off. — Had I not, with my own eyes, have seen it in the body of the Republic's President of the *Marine*, who could have thought that the tube of the oesophagus was burst by violent strainings? — Hernias have often been produced by vomiting. — After violent vomiting, the site of the stomach, and other abdominal viscera was found strangely changed in the carcass of a woman, as we find *pag. 238, Memoires de l'Acad. des Sciences l'an. 1716.* — With justice does Celsus (lib. i. cap. 3. p. 29.) condemn those gluttons who prepare their stomachs for feasts by vomits. *Itaque istud luxuriæ causa fieri non oportere fateor, interdum valetudinis causa recte fieri, experimentis credo. Commoveo tamen ne quis, qui valere & senescere volet, hoc quotidianum habeat.*

Hence

Hence we may see the danger of vomiting to plethorics, or to those of bad habits. In spasmodic reachings, artificial irritations teem with destruction. How judiciously does Sydenham advise vaenesection to precede vomiting, in cases which require both; least (by violent strainings) the pulmonic vessels should be burst, or the brain hurt; examples of which he says he has seen. *Seet. i. cap. 4. p. 65.*

“ While I was studying anatomy at Paris, I *Case.*
 “ well remember the untimely fate of a bloom-
 “ ing youth, a fellow-student, Dr. Hugh Gra-
 “ ham. In very hot weather (by posting) we
 “ were both heated. By fasting and diluting,
 “ my complaints vanished in a few days. He
 “ was feverish, with a nausea, for which he
 “ proposed a puke, which I opposed, begging
 “ he would rather bleed. Laughing at my
 “ fears, he took only one scruple of *Ipecacu-*
 “ *ana*, which vomited not immoderately. Next
 “ day he complained of a dull pain in the
 “ right hypochondre, for which I bled him,
 “ and would have repeated it, as my mind
 “ laboured with a presentiment of danger.
 “ Some few days were trifled away in doing no-
 “ thing. My anxiety forced the Doctors *Du*
 “ *Moulin* and *Astruc* on my friend. I related
 “ my fears to them; I dreaded an abscess in
 “ the liver. I told them I feared the season
 “ was lost. Their answer was, *C'est impossible,*
 “ *Monsieur, vous craignez trop pour Monsieur vo-*
 “ *tre ami, tout va bien.* In spite of *saignees,*
 “ *purges, lavemens,* &c. the patient shut his eyes.
 “ Insisting still on my prognostic, I begged
 “ their presence next day. Before I touched
 “ the body, I prognosticated an abscess in the
 “ concave part of the liver. When I had laid

" the abdominal viscera in view, the gibbous
 " part was found. Putting my hand under the
 " liver to turn it, I felt it uncommonly moist.
 " From my wrist to my fingers ends, it was
 " covered with bland well concocted pus. Old
 " *Du Moulin* hobbled across the room, and
 " clasping me in his arms, called out, *Ma foi,*
 " *Monsieur, vous avez faites un trop bon progno-*
 " *sic; un jour vous devez etre grand medecin.*
 " The truth was, I watched every groan, I at-
 " tended him night and day, I read for him,
 " I thought for him, I-loved him, and, though
 " I could not save him, by his untimely fate,
 " I was taught three useful lessons, 1. That
 " vomits are to be administered only where they
 " are necessary. 2. That inflammations of the
 " liver run speedily to pus; and, 3. That bleed-
 " ing avails not where abscesses are once form-
 " ed. These three lessons have enabled me to
 " save many."

Vomits,
their ef-
fects.

§. II. VOMITS warm and strengthen particu-
 lar members, by deriving a greater supply of
 blood and spirits to the part. By repeated suc-
 cussions vomits resolve impacted matter. On
 this principle it is that sea-voyages remove tu-
 mors, and topical inflammations; thus it is that
 rebellious ulcers are rendered tractable, hæ-
 morrhages and fluxes stopped, as have been
 dropsies. Of the last there are two memora-
 ble instances.

Cases.

" Dr. Ross, late physician of London, was
 " once tapped for a dropsy. His abdomen
 " filled again. The day was fixed for the se-
 " cond tapping. A vomiting of coffee-like
 " water came on spontaneously, and continued,
 " at different times, till he was emptied. Nor
 " did

“ did he fill again. This relation I had from
 “ his own mouth.”

The second volume of the *London Medical Essays* contains a more memorable instance, communicated by Doctor Alexander Mackenzie.

Where the viscera are sound, where the blood ^{Vomits} vessels have been duly emptied, where pains ^{safe.} and reachings arise from viscid phlegm, bilious putrid, or acrid juices, vomits seem to be preparatives more natural than purgatives. Lord Palmerston's case, related by Dr. Oliver, proves the text.

Dr. Woodward, of *Gresham-College*, seems to have been an enthusiast in the doctrine of vomits. He has furnished the public with many successful proofs. His dead tell no tales.

§. III. PREPARATION seems to be more in- ^{Prepara-} dispensible in regard to bathing than in drink- ^{tion neces-} ing; for medicated waters generally pass off at ^{sary to} first by stool. Bathing, e. c. digests the finer ^{Bathing.} part of the excrement by sweat, while it indurates the thicker. This is the doctrine of Baccius, *De Thermis. Est enim ad hunc usum praeparatio magis necessaria quam in potibus, nam iidem aquarum potus supplent fortasse primis diebus pharmaci virtutem.*

Preparation is more necessary still to those ^{To sweat-} who use *Sudatories* or *Vaporaries*; for, by their ^{ing.} use, the humors are surprisingly fused. There are few constitutions which can bear sudden great changes. The first passages ought not only to be emptied, but rather ought to be prepared by gentle sweats in tepid baths.

Preparation is particularly necessary to ^{To pump-} Pump- ^{ing.} ing. Baccius (page 106) has explained the ne-
 cessity

cessity most satisfactorily. " Nisi corpus, et
 " praeipue, caput superfluitatibus vacet, se-
 " curi consilii non sit subire *Ducciam*, unde ex
 " calidarum aquarum insultu excitetur ten-
 " nium excrementorum defluxio, quae vel par-
 " tem gravius offendat, vel majus inferat ma-
 " lum. Verum, sublatis condecenter superfluis,
 " et defluxionis causis, superventura erit *Dur-*
 " *ciae* actio tanquam auxiliaris manus supremum
 " allatura adjuvamentum, intime a cerebro ac
 " nervis & partibus laesis omnem contumaciam
 " evellens ac solvens, et membris ipsis majus
 " robur restituens."

Case.

This very winter my practice gave me an in-
 stance of the danger of precipitant pumping.
 " A Captain of the army had laboured for two
 " years of a disorder in his head. The nerves
 " appropriated for sense and speech were parti-
 " cularly affected. Finding, at first, some be-
 " nefit by drinking the Bath-waters, he pressed
 " me hard for leave to bathe. He was told by
 " every body it would certainly cure him. I
 " dreaded the consequences of so great a de-
 " gree of rarefaction in a case where the brain
 " was particularly affected. I consented to
 " *Pumping* on the nape of the neck, and down
 " the spine. Without judgment it was permit-
 " ted, without preparation it was begun. His
 " head became apparently more clouded, his
 " speech more inarticulate, his actions favour-
 " ed more of idiotism, he leaned much to one
 " side; in a word, he seemed to approach to the
 " eve of an apoplexy. The worse he grew, the
 " more obstinate he became, he drank too
 " much wine, forgetting that he had but just
 " emptied his glass. By seasonable bleeding,
 " he was snatched from impending death. This
 convinced

“ convinced me that his disorder was incurable,
 “ for which reason I advised his friends to get
 “ him to sell out, which he did, and died in a
 “ few months.”

III. SOME of the antients depended on *Bathing* for every purpose. They forbade every other evacuation.

Galen says, *Ingrediantur ventre vacua, nec insignem quæmpiam evacuationem passi, præsertim sanguinis.* Be it known that the people whom Galen had to do with lived on a spare diet, and in a climate where the pores were always open; their vessels were not crammed with vitious humors, the productions of gluttony; they required but little preparation. Animal food makes but a small part of the diet of the *Italians*, even at this day. Quarters of fowl hang up in their stalls, as quarters of meat do in ours. Herbs and fruits are their principal dishes. We, e. c. may be truly denominat- ed carnivorous; and therefore require more preparation, than what can be expected from baths which are rather abstersory than purgative, particularly sweet, or artificial baths, which rather act as emollients and cleansers. Far different are the qualities of natural hot waters, inwardly or outwardly applied. First, they unload the body of gross humors, outwardly, by the skin. Inwardly, they purge the stomach and guts. In other respects, *Bathing* acts as an antidote, by rectifying the part affected, and altering the constitution.

IV. Of SWEATING.

Sweating. SWEATING is practised in all stages of diseases. Sweating is as dangerous as any one evacuation. In those diseases which frequent *Bath*, sweating is commonly practised in bathing; and, where it is easily produced, seldom does mischief. Excepting *Diabetes*, sweating is hardly compatible with those diseases which frequent *Bristol*. *Costa non cruda sunt evacuan-*da is an aphorism founded in truth. He who knows the difference between humors crude and concocted, is alone a judge when sweats are to be prescribed.

CHAP.

C H A P. VI.

Of the PASSIONS.

1. **T**O maintain health, the *Passions* must be kept under subjection. Let a man be never so temperate, and regular in his exercise; yet if he is led away by passion, all his regularity will avail but little. *Passions to be kept under subjection.*

2. Fear, grief, envy, hatred, malice, revenge and despair are known to weaken the nerves, retard the circulation, hinder perspiration, impair digestion, and to produce spasms, obstructions, and hypochondriacal disorders. *Their effects.* Valerius Maximus gives fatal instances of terror. Violent anger creates bilious, inflammatory, convulsive, and apoplectic disorders, especially in hot temperaments. Pliny and Aulus Gellius give us fatal instances of extreme joy. Sylla having freed *Italy* from civil wars, returned to Rome. He said, he could not sleep the first night, his soul being transported with excessive joy and content, as with a strong and mighty wind.

3. In that journal of Mr. Ives, Surgeon of the *Dragon* ship of war, recorded in Dr. Lind's book of the scurvy we find a memorable instance of the effects of opposite passions. On the thirtieth day of January 1743, this gentleman had ninety men on his sick list, almost all scorbutics, fifty-five of which seemed, to him, out of the power of medicine. News came on board, that the *Spaniards* were to push out of *Toulon*-barbour to join the *French*, in order to give battle to the fleet. Every eye sparkled with joy. So fast did the hopeless sick recover, that, on the eleventh of February, the day of action, there were only four or five of the ninety who could be with-held from their fighting quarters. *Examples.*

ters. From the eleventh to the fifteenth, the effects of joy continued; the Dragon's had all done their duty that day; few or none took notice of their illness. Every day brought on board fresh tidings of the scandalous behaviour of some ship or other. Those whom glory and the hopes of conquest had almost cured, relapsed. Before the end of the month, the sick-list was as deep as ever. Blotted for ever, be the memoirs of that ill-fated day! Sufficient it is, for my purpose, to have proven, that national shame hastened the death of brave sailors who might have been saved by the exemplary punishment of commanding poltroons.!

In weathering *Cape-born*, the *Centurion's* crew was so dispirited by distress, that one half of the men died. While the same ship cruized for the *Aquapulco ship* golden dreams supported the men's spirits, for full four months she was remarkably healthy.

In that long storm in which the *Ipswich* ship of war lost her rudder &c. fear and dependency seized the sailors to such a degree, that they rather chose to perish by inches below, than to get upon deck to extricate themselves from danger.

Those who brood over cares are the first attacked by putrid diseases, and the hardest to cure. The hopes of ending their days among their native barren rocks make the *Switzers* fight under any banner.—The *Royal Highlanders* have, from their institution, been real volunteers; many of them have fallen by the sword; in other respects, they are remarkably healthy. New corps of *Higblanders* have since been raised; old men have been cozened from their families, and boys from their mother's laps. No sooner were they waisted to distant shores, than they began to pine away. Men accustomed to cold,

hunger, and fatigue fell martyrs to the *maladie de pais*.—Africans transported to the colonies, no sooner cast their eyes on the hated shores, than they refuse sustenance, and often plunge into the main from a notion that their departed spirits regain their liberty.—Can drugs reach the seats of such diseases? What can medicines avail to love-sick minds? Wounded spirits who can bear?

4. Moderate joy, virtue, contentment, hope, *Moderate* and courage invigorate the nerves, accelerate *passions* fluids, promote perspiration, and assist digestion. *healthy.* Lord Verulam observes that chearfulness of spirit is particularly useful when we sit down to meals, or go to rest. “If any violent passion should surprize us at these seasons, it would be prudent to defer eating, or going to bed until the mind recovers its wonted tranquillity.”

5. It is observable that the perspiration is larger *The passi-* from any vehement passion of the mind when the *onate ought* body is quiet, than from the strongest bodily ex- *to be quiet.*ercise when the mind is composed. Hence we infer, that those who are prone to anger, cannot bear much exercise, because the exuberant perspiration of both might waste too fast. It is also remarkable that disorders which arise from vehement agitations of the mind, are more stubborn than those which arise from violent exercise; because the latter are cured by rest and sleep, which have no influence on the former. People who cannot bear losing, should never play.

6. THE sum total of what has been offered on *Sum total.* the subject of *eating, drinking, exercise, sleeping,* and the *passions* may be comprized in that golden rule of Hippocrates contained in the sixth book of *Epidemics*. LABOR, CIBUS, POTUS, SOMNUS, VENUS, OMNIA MEDIOCRIA.

A P P E N D I X.

O F

P L A I S T E R I N G

I N T H E

S M A L L - P O X .

*Plastering
in the
Small-pox.*

I N the year 1753, I published a *Medical Essay* on this subject. Some years after, I saw an article in one of the *Magazines*, by Dr. Cameron, Physician of *Worcester*, recommending the practice. By this gentleman's manner of writing, I found that my little *Essay* had not fallen into his hands; I sent him a copy, the receipt of which he politely acknowledged, assuring me that *Plastering in the Small-pox* was a practice successfully used in that, and the adjoining counties, for twenty years, and upwards.

Since that time, I have been favoured with repeated accounts of its success; particularly from my much lamented, candid, and judicious friend the late Dr. Haldane of *Taunton*, who owns its benefit in total and partial applications.

The practice has been common at *Salisbury*, many years. I had the first hint from Mr. Edward Goldwyre, an ingenious surgeon of that city.

city. He assured me that he had saved many lives by plaistering, after they had been abandoned by their physicians.

I then felt a sort of conviction, which I cannot now depart from. The first impression was soon sold off, nor do I now reprint a second. By way of *Appendix*, I only beg leave to offer to the public the spirit of a practice which can, even in the hands of the ignorant, do no harm, and may be improved. The small-pox is a disease that often puzzles the learned; there are some kinds which nature cures; there are others which baffle art. If this adds but a mite to the improvement of an uncertain art, if it now and then saves a life in distress, it may surely claim some regard. I pretend not to recommend it as a specific. Like other specifics, it may be applied when the restorer of Lazarus can only save. If a physician may be allowed to say that his patient's life was saved by this or that, I may, with conviction, say, that, in the first case, my patient's escape was owing to this. In the second, the alarming symptoms which followed the unseasonable removal of the plaisters, loudly proclaim its use.

There is hardly a disease that has employed the pens of authors so much as this. Much has been said, and much to very little purpose. Divisions and subdivisions seem rather calculated to distract the minds of young practitioners, than to inform their judgment, or to direct their practice.

How warmly has Freind's doctrine of *purging* in the *secondary fever* been contended for; how warmly has it been disputed?

Bleeding, in the second stage, has been opposed by men of character. From *Rhacis*, *Avicenna*, *Pitcairn*, and others, we nevertheless have undoubted accounts of copious hæmorrhages by

diverse channels, and those continuing through every stage, to the manifest relief of the patient.

To write systematically is not my present purpose. I think Freind in the right when he says, *Omni tempore mittendus est sanguis dummodo adsint indicantia.*

We find the opinions of some opposite to others; and, what is of the worst consequence, each endeavours to support his doctrine by *Cases*, or facts. In such a labyrinth, *omnia sunt facienda, dummodo adsint indicantia.*

All parties seem to be agreed in one point, *ut ad exteriora summamque cutim ferantur humores.*

Nature affects this road; when she cannot complete her work, there must be some error in point of *virulence, constitution, or practice.* The skin is the emunctory by which the natural salutary crisis is performed. The *salivation, looseness, and swelling* are only *conamina naturae laborantis.*

This *rationale* seems to be universally confessed. Boerhaave says, *in hoc statu* (i. e. *suppuratorio*) *curandus puris ad exteriora exitus, quod fit laxando cutim fomentis tepidis, laxantibus, assiduo et laboriose repetitis.*

Chemists, supposing a malignity, concluded that *Alexipharmics* were antidotes. They often conspired with the violence of the distemper, to the destruction of the individual.

In urgent cases of the confluent kind, Avicenna and Rhazis propose opening the pustules to prevent re-absorption. This is the common practice in *India* at this day.

Hilscher proposes the *abrasio capillorum* to increase perspiration.

In a particular case Mead ordered *scarification* and *fomentation*, with *digestives.*

These are sufficient to evince the rationality of our general intention, *ut ad exteriora, summamque cutim ferantur humores.*

The foregoing methods have all their inconveniencies; some are attended with danger. There seems still to be wanting a method more effectual, more universal, and liable to none of the former inconveniencies, a method by which nature may be gently and willingly led to her intended port, whereby a more complete crisis may be formed. This is to be expected by *covering the body with plaister.*

The cloth may be armed with *melilot*, *basilicon*, or any other ointment, according to the degree of heat, or attraction required.

The season of application depends on the symptoms: I think in the beginning of the suppuratory state. If they are continued till they fall off, or renewed till the last pustule is turned, so much the better.

By *plastering*, may not the morbid matter be *Queries.* invited to its proper emunctory?

May it not there be concocted, and ripened by the genial heat?

May not the secondary fever be prevented, or rendered milder?

May not this method supply the place of *loosenss*, *swelling* of the face and hands, *salivation*, &c.

May not this, partially applied, act the part of *sinapisms*, or *revellents*, and thus relieve the nobler viscera?

May not that tense universal pain be thus relieved?

May not the fatal *sweating* be prevented?

May not thus the shocking deformity of *scars* be prevented?

May not this practice be extended to other diseases which commonly have their crisis by the skin?

OF PLAISTERING

While I practised at *Marlbrough*, the small-pox seized five and forty young ladies at a boarding-school, and two maid servants, every one of which recovered. There were two of the number who, by imprudence and mal-treatment, had like to have paid the last debt, and by plaistering were cured.

CASE I.

Cases.

Nov. 1747. " Miss Long, aged 13, tall,
 " and rather delicate, after living in the
 " school, for seven days, with the first of her
 " school-fellows who was infected, was moved
 " to another house, where she lived some days
 " without sickness, or any other symptom of in-
 " fection. During this period, she was offici-
 " ously purged thrice. Some of the purges
 " operated violently. When I first saw her, she
 " was comatous, her pulse rather oppressed. I
 " applied a blister *inter scap.* which brought her
 " to her senses, and gave a better appearance to
 " the pustules. The effect of this lasted only
 " six hours; the pustules sunk. The alexi-
 " pharmic regimen was closely pursued. I vi-
 " sited her almost every hour, day and night.
 " The effects of these medicines were but mo-
 " mentary. I exchanged this regimen for sago,
 " jellies, rich sack-whey, *immo aliquando ad ebri-*
 " *etatem.* If these were but in the least omitted,
 " her pulse, pustules, and spirits sunk. Sina-
 " pisms were frequently applied to her soles,
 " fomentations to her breast. About the
 " time of turning (in the distinct sort) the pu-
 " stules were flat and shrivelled, the interstices
 " pale, the pulse weak, her face was more deli-
 " cate

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“ cate than in health ; in a word, nothing
“ seemed to promise a happy crisis.

“ I ordered her head to be shaved, and her
“ whole body to be wrapped up in melilot
“ plaister. Sinapisms were applied to raise a
“ fever, and so to warm the plaisters. In the
“ space of six hours, the pulse was fuller, and
“ evener, than at any time. The face puffed
“ up. The pustules increased and filled with
“ well concocted matter. That universal ten-
“ sive pain abated. The singultus vanished.
“ In a word, after the application of the plaif-
“ ters, she required the nourishing diet only,
“ and that more moderately. She had a full
“ load, and enjoys better health than ever.”

CASE II.

“ Miss G. a Dairy-man's daughter, aged
“ about eighteen, of a habit of body remarkably
“ gross, *maxime olida quasi*, was, at the same
“ time, and in the same school, taken with the
“ common symptoms. She was bled to *lib. i.*
“ and vomited. The pustules resembled the
“ *exiliores duriores ad maturitatem non pervenientes*
“ of *Rhaxis*, the skin, all over, of a deep red.
“ Nature seemed to be oppressed. She had
“ glysters through the whole. In her face the
“ pustules hardly ever rose above the surface of
“ the skin, and that in one continued pellicle,
“ with matter like that of the chrySTALLINE, in-
“ termixed with livid spots.

“ On the seventh day after the eruption,
“ finding no signs of maturation, she was wrap-
“ ped all over in melilot plaister. The very
“ next day, the skin resembled dark parchment,
“ with veins or seams of well-concocted matter.

“ From

OF PLAISTERING

“ From behind her ears and head the matter
 “ ran down in streams, of a smell extremely dis-
 “ agreeable. All over her body the pustules
 “ enlarged. The interstices changed that in-
 “ tense red for the damask. The tensive pain
 “ abated. Every thing went on well till they
 “ turned. Offended at the stench, the nurses
 “ begged hard for leave to remove the plaif-
 “ ters. I put them off with fair promises, and,
 “ though the smell was equally odious to me,
 “ I could not help being pleased at the effects
 “ of the plaisters.

“ Privily, at last, they did unplaister her.
 “ The matter thus pent up and resorbed pro-
 “ duced pains pleuritic and peripneumonic,
 “ with a pulse *bacculi instar*, hoarseness, and
 “ dyspnoea.

“ Surprised at these uncommon symptoms,
 “ without suspecting the cause, the removal of
 “ the plaisters, I ordered her to be bled to lib. i.
 “ This was repeated. Fomentations, glysters,
 “ purges and blisters, were pursued. These
 “ alarming symptoms were, at last reduced to a
 “ cough, and loss of appetite. Then, and not
 “ till then, was the true cause discovered. I im-
 “ mediately had the whole body re-plaistered.
 “ The relicts of the morbid matter was quick-
 “ ly moved from the lungs, the cough ceased,
 “ and her appetite mended.

“ She appeared emaciated in the face, while
 “ the belly seemed to swell. This swelling I
 “ ignorantly imputed to the obstruction of the
 “ cure. In five months after, I was convinced
 “ that this swelling was owing to a more natu-
 “ ral cause. The fruits of that amorous in-
 “ trigue which occasioned Miss's being sent to
 “ school so late appeared; in due time, she was
 “ de-

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“ delivered of a chopping boy. John and Miss
“ were married, and live as happy as any pair in
“ the parish.”

ONE of the young ladies, of a delicate *Practical*
constitution, and puny appetite, had a very *Remarks.*
heavy load, with remarkable swelling of the
face and hands. On the eighth day from the
eruption, her pulse was full and quick, with a
dyspnoea, hoarseness, and sore throat. I order-
ed a smart purging glyster, which brought off
six large fetid stools. Nature thus unloaded,
she was rescued from death, agreeable to *Hux-*
ham's Doctrine, Philosop. Transact. No. 390. pag.
379.

2. To those who went through the disease
without any bad symptom, I gave *Syrup e meco-*
nio every night. In case of *restlessness, fever, de-*
lirium, hoarseness, dyspnoea, I ordered a milk glyf-
ter, which constantly answered, agreeable to
Simson's doctrine, Edinb. Med. Essays, vol. vi. p.
579, &c.

3. One of the scholars lived in the same room
with the first infected seven days, had head-ach,
pain of the back, and all the symptoms of the
first stage. She was bled, and had a vomit with
Tinct. Ipecac. & Oxy mel scillit. which vomited,
and purged. Next day I called, and found her
perfectly well. Doubtless she was infected. By
these evacuations the variolous matter was elimi-
nated. She has been much conversant since
among variolous patients, and never could be
infected. This seems to countenance Boer-
haave's opinion, *Aphor.* 1393, *Morbus variolosus*
saepe sine variolis fit.

4. Another

4. Another seemed to labour under delirium and other bad symptoms, more than any of the rest, without any pustule discernible. One was at last discovered behind the ear, among the hair. This inflamed, ripened, and turned dully. This patient was afterwards much troubled with boils, blotches, and running sores.

F I N I S.



ERRATA Vol. I.

Page 5. Line 3. for *es* read *as*. P. 15. L. 29. for *poly-biss*, read *polibiss*.
 P. 35. L. 31. for *baimorages*, read *baemorbages*. P. 48. L. 10. for *unguinis*, read *unguibus*. P. 51. L. 15. for *atque*, read *atque*. P. 151. L. 17. for *robbed*, read *robbed*. P. 209. L. 9. for *dissoluble*, read *soluble*.
 P. 216. L. 4. blot out AND BRISTOL. P. 225. L. 22. for *hackney*, read *hacknied*.

ERRATA Vol. II.

Page 2. Line 32. for *glotis*, read *glottis*. P. 22. L. 10. between the words *advised* and *to* insert *him*. P. 122. L. 20. for *his*, read *lie*. P. 126. 30. for *aetate*, read *aetati*. P. 139. L. 10. for *longa*, read *longe*. P. 142. L. 15. for *harder* read *hardly*. P. 147. L. 27. for *employment*, read *employments*. P. 154. L. 21. blot out the first comma. P. 171. L. 9. for *qaempiam*, read *quempiam*.